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Chignik Management Area Salmon Catch and Escapement Statistics, 1987

by

Bruce M. Barrett

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ABSTRACT

The 1987 Chignik Management Area salmon catch of 2,425,939 fish consisted of 2,651 chinook salmon (*Oncorhynchus tshawytscha*), 1,898,838 sockeye salmon (*O. nerka*), 246,775 pink salmon (*O. gorbuscha*), 127,261 chum salmon (*O. keta*), and 150,414 coho salmon (*O. kisutch*). An additional estimated 534,332 sockeye of Chignik origin were caught in the interception fisheries in the Cape Igvak Section of the Kodiak Management Area and in the Stepovak, Balboa Bay, and Beaver Bay Sections of the Alaska Peninsula Management Area. The Chignik Management Area sockeye and coho catch was above the 1977-86 averages, while chinook, pink, and chum catches were below the 1977-86 averages. A total of 102 permit holders operated in the management area. Most of the chinook (73%), sockeye (64%), and coho (51%) catch was taken in the Chignik Bay District, while most of the pink (76%) and chum (68%) catch was harvested in the Western District. The catch of Chignik run sockeye salmon was comprised of an estimated 80% Black Lake stock (1,951,794 fish) and 20% Chignik Lake stock (481,376 fish). The escapement was represented by 73% Black Lake stock (589,291 fish) and 27% Chignik Lake stock (214,452 fish). The pink escapement was an estimated 385,283 fish, while the chum escapement was an estimated 85,391 fish for the 55 streams surveyed. The coho run was not sufficiently monitored to determine the area escapement.

The Black Lake sockeye run was 66% age 1.3 and 26% age 2.3, while the Chignik Lake sockeye run was 28% age 1.3 and 53% age 2.3. In the Chignik Bay District male sockeye length averaged 578 mm, and female sockeye length averaged 576 mm. Age-1.3 Black Lake sockeye lengths averaged 583 mm for the females and 606 mm for the males. The sockeye male to female ratio of the Black Lake stock was 1.0:1. Based on a sport fish creel sample, the average chinook length in the escapement was 855 mm. The male to female ratio was 2.3:1, and most of the fish were either age 1.3 (46%) or age 1.4 (43%). The commercial coho catch in the Chignik Bay District was 47% age 1.1 and 50% age 2.1. Their average length was 592 mm, and the male to female ratio was 1.9:1.

KEY WORDS: Chignik River, Pacific salmon, catch, escapement, age, length, sex, Black Lake

INTRODUCTION

The Chignik Management Area is located on the Pacific Ocean (south) side of the Alaska Peninsula between Kilokak Rocks and Kupreanof Point (Figure 1) and includes 490 miles of contiguous coastline and approximately 90 anadromous fish streams (ADF&G 1985a). Chinook salmon (*Oncorhynchus tshawytscha*), pink salmon (*O. gorbuscha*), chum salmon (*O. keta*), coho salmon (*O. kisutch*), and sockeye salmon (*O. nerka*) are commercial fished there. Most of the fishing effort in the Chignik Management Area is directed on the two sockeye runs to the Chignik River drainage which are the Black Lake run and the Chignik Lake run (Figure 2). The Black Lake run occurs mainly in June, and the escapement goal is 400,000 fish. Most of their spawning occurs in the inlet streams of Black Lake. The Chignik lake run is mainly in July, and the escapement objective is 250,000 fish. The Chignik Lake stock spawns on the shoals of Chignik Lake and in its inlet streams, including Black River and its tributaries (Narver 1963).

The management area is comprised of five fishing districts and 25 statistical areas (Figure 3) and is an exclusive commercial purse seine area. Commercial salmon fishing normally begins during the first week of June, and until about mid-July all fishing is regulated exclusively on the Chignik River sockeye escapement. Most of the early fishing occurs in the Chignik Bay District within Chignik Lagoon. From mid-July through early August the majority of the fishing time is still directed on Chignik River sockeye salmon. However during this time there are usually directed openings on local pink and chum runs outside Chignik Lagoon.

Fisheries in the Kodiak Management and Alaska Peninsula Management Areas target on Chignik River sockeye salmon. Fishermen in the Southeastern District of the Alaska Peninsula Management Area, which includes East Stepovak, West Stepovak, Balboa Bay, and Beaver Bay Sections, have been allocated 6.2% of the Chignik Management Area sockeye catch through 25 July. Another 15.0% of the Chignik Management Area catch through 25 July has been allocated to seine fishermen in the Cape Igvak Section of the Kodiak Management Area. These allocations were established in regulations by the Alaska State Board of Fisheries (ADF&G 1987).

Salmon escapements in the Chignik Management Area are monitored by aerial surveys and a weir. Sockeye and chinook escapements into the Chignik River are counted through a weir located on the river 4 km (2.5 mi) above the lagoon. Pink and chum escapements are counted by aerial surveys except for the Chignik River escapements which are not counted. Coho escapements are not counted because of budget restrictions.

The 1987 salmon catch and escapement data for the Chignik Management Area are summarized. The intent is that this information will provide a data base for developing brood tables, forecasting returns, and evaluating escapement and management objectives.

METHODS

The catch data in this document were compiled by the Chignik staff of Division of Commercial Fisheries of the Alaska Department of Fish and Game (ADF&G) from receipts (fish tickets) given to fishermen at the time of delivery. The fish tickets and computer-generated summaries were edited for errors and omissions. Due to the volume of fish tickets and numerous data entry steps, the catch data and allocation cited in this report should be considered accurate but not exact.

Weekly sockeye catch sampling was conducted in the Chignik Bay District aboard tenders operating in the lagoon. The coho catch was sampled twice near the peak of the run in the Chignik Bay District. Early run sockeye escapement was sampled in late June and early July at the outlet of Black Lake using a standard 15.2 m (50-ft) beach seine.

All fish sampled were measured for length (mid-eye to fork-of-tail), and scales were taken, and sex were determined. Length measurements were taken using a standard caliper or meter stick with 1-mm graduations and reading the measuring device to the nearest 1 mm. Accuracy was assumed to be within 5 mm. Sex was determined by morphological characteristics (abdomen and snout). Age was determined from scales taken from the preferred area (INPFC 1963). One scale was taken from each sockeye salmon and two scales from each coho salmon. The scales were mounted on gum cards and later impressed in cellulose acetate using methods described by Clutter and Whitesel (1956). A standard microfiche reader was used to view the scale impressions for age determination.

All salmon ages are reported in European notation (e.g., 2.3). In this notation the first digit is the number of freshwater annuli and the second digit preceded by a period is the number of marine annuli. Total age is the summation of the first and second numbers plus one to account for the egg incubation time. The accuracy of age determination was not tested. It was assumed that experienced scale readers would be in 90% agreement.

Chignik River sockeye and chinook escapements were counted through a weir located on the river about 4 km (2.5 mi) above Chignik Lagoon (Figure 2). The weir was operational from 27 May through 11 August. The chinook salmon escapement entering the Chignik River after the weir was removed on 11 August was estimated from the rate of decline of chinook counts over the last few operating weeks at the weir.

Escapements of pink and chum salmon were monitored in the Chignik Management Area by aerial stream surveys conducted from early July to early September. The aerial survey counts of pink and chum escapements by stream were used along with an assumed average stream life of 15 d for both species to calculate total escapement (Cousens et al. 1982; Johnson and Barrett 1988).

Most of the data in this report were stratified by statistical week and compiled using a personal computer. (A statistical week is a 7-d period starting at 0000 hours Sunday and ending at 2400 hours Saturday. Each week is sequentially numbered beginning with the first Sunday in January.)

A list of the 1987 statistical weeks with the corresponding calendar dates is in Appendix A.1.

The sockeye scale samples collected in the Chignik Bay District were used to determine the age composition of daily sockeye catches and escapements. Before age composition estimates were calculated the daily catches in the outer districts and interception fisheries, and the daily escapements through Chignik weir were adjusted to the migration time of the Chignik Bay District. The migration times used to match the daily catches and escapements to Chignik Bay District were from Conrad (1984). These were: Cape Igvak and Stepovak, Balboa, and Beaver Bays 5 d; Perryville and Eastern Districts excluding Aniakchak Bay Statistical Area 3 d; Western District and Aniakchak Bay Statistical Area 2 d; Central District 1 d; and Chignik River weir -1 d. With the catches and escapements adjusted to match Chignik Bay District timing, the age samples were then suitable for describing the age composition of the daily Chignik sockeye run. The daily run totals prior to the first sample were assigned the age composition of the first catch sample. The daily run totals coinciding with sampling days were assigned the respective age composition of the daily sample, while the daily run totals for the non-sampled days were assigned age compositions determined through linear interpolation values from the known age samples. The daily run totals after the last sampling day were assigned the age composition of the last sample.

Mean lengths were computed from an unweighted composite of the data collected from each area sampled. Sex compositions were computed by week for each area sampled.

In this report the stock composition estimates for the Black Lake and Chignik lake runs were determined from scale pattern analysis (Probasco and Fox 1988) which followed the methodology described by Conrad (1984).

All graphically presented catch and escapement numbers in this report were smoothed by the von Hann linear/filter method (BMDP 1981). By this method an individual observation (I_o) was smoothed using the first observation value (P_o) preceding and following the individual observation (F_o). The formula used is: $((P_o + (2(I_o)) + F_o))/4$.

RESULTS AND DISCUSSION

In 1987 there were 2,425,939 salmon caught in Chignik Management Area (Table 1). The majority of the catch occurred in the Chignik Bay District (68%), followed by the Western (16%), Central (11%), Perryville (3%), and Eastern (1%) Districts (Appendices A.2 - A.6). For all districts combined sockeye salmon comprised 78% of the catch, followed by pink salmon at 10%, coho salmon at 6%, chum salmon at 5%, and chinook salmon at 0%. The 1987 sockeye and coho components of the catch were above the 1977-86 averages and the 1986 levels, while the 1987 chinook, pink, and chum components were below the 1977-86 averages and the 1986 levels.

In 1987, 102 limited entry salmon permits were fished and 3,861 landings were made in the Chignik Management Area (Table 2). The majority of the landings occurred in the Chignik Bay District (78%).

Chinook Salmon

The 1987 chinook catch was 2,651 fish (Table 1). The majority of the fish were harvested in the Chignik Bay District (73%) which is the terminal fishing area for the Chignik River run (Table 2). The catch peaked there in weeks 28 and 29 (5 July - 18 July) which was about a week later than in 1986 (Barrett 1988). The catch in the Western District was the second highest (19%), and the peak there occurred in week 31 (26 July - 1 August).

The Chignik River chinook escapement less the inriver sport catch was approximately 2,680 fish (Table 3). A total of 2,695 large (>650 mm) chinook salmon were counted through the weir and 285 small (<650 mm) chinook salmon passed through the weir uncounted. The number of small chinook salmon was estimated from the proportion of large and small length chinook salmon measured in a sport fish catch sample. The total inriver sport catch was about 300 fish (P. Probasco, Alaska Department of Fish and Game, Kodiak, personal communication).

The chinook escapement began entering the Chignik River in week 26 and the escapement continued through week 33, the last week the weir was operated (Appendix B.1). The peak escapement movement was in week 30 (19-25 July).

The 1987 Chignik River chinook run of 5,741 fish was 45% above the 1963-86 average (Table 3). The harvest rate on these fish was 53%, which is outside of the optimum range of 67% to 74% as reported by Chapman (1986) but quite near the 1963-86 average harvest rate for the Chignik River population of 52%.

Assuming that the Chignik River sport fish catch sample (N=97) was representative of the population, the 1987 run was dominated by age-1.3 (46%) and age-1.4 (43%) fish (Appendix B.2). The average chinook length was 855 (Appendix B.3), and the male to female ratio was 1.0:1. (Appendix B.4).

An updated brood table for the Chignik River chinook run is provided in Table 4.

Sockeye Salmon

The Chignik River early (Black Lake) and late (Chignik Lake) sockeye runs together supported a total catch of 2,433,170 fish (Table 5). The early run comprised 80% of the catch, while the late run comprised 20% (Table 6). The interception fishery in the Cape Igvak Section of the Kodiak Management Area accounted for 343,402 fish, while the interception fishery in the Stepovak, Balboa Bay, and Beaver Bay Sections of the Alaska Peninsula Management Area accounted for 190,930 fish (Table 5). In the Chignik

Management Area 1,898,838 sockeye were caught, a level 15% above the 1986 catch and 19% above the 1977-86 average catch (Table 1).

Within the Chignik Management Area the majority of the catch was in the Chignik Bay District (82%) followed by the Central District (13%; Table 5). The peak catch in both districts occurred in week 27 (28 June - 4 July).

Chignik Lagoon, which comprises most of the Chignik Bay District, is a milling area for sockeye salmon entering the Chignik River. In 1987 sockeye salmon held about 1.5 d in the lagoon before ascending the Chignik River. Sockeye averaged another 0.5 d between the lagoon and the Chignik weir. These migration times were determined by visually comparing the lagoon catches with the weir counts (Figure 4) and were identical to those observed in 1986 (Barrett 1988).

In the Chignik Bay District sockeye catch most of the fish were either age 1.3 or 2.3 (Table 7). The age-1.3 fish were dominant from week 23 (31 May-6 June) through week 28 (5-11 July), while the age-2.3 fish were dominant from week 29 (12-18 July) through week 35 (23-29 August) which was the last week sampled. The age shift was primarily due to stock differences as the early run (Black Lake stock) was mainly age 1.3 (66%), while the late run (Chignik Lake stock) was mainly age 2.3 (53%; Table 6).

In the Chignik Bay District catch, male age-1.3 sockeye salmon averaged 23 mm, and age-2.3 sockeye salmon averaged 24 mm greater length than female sockeye salmon of the same age (Appendix B.5). In the age-1.2 group the females averaged 43 mm larger than the males, and in the age-2.2 group the females averaged 22 mm larger than the males. Overall, males averaged about the same length (578 mm) as the females (576 mm). The average sockeye length in the Chignik Bay District was 577 mm. In the catch female sockeye salmon were more abundant than male sockeye salmon in 8 of the 12 weeks sampled (Appendix B.6). The male to female ratio for the season was 0.7:1.

The Chignik River drainage is essentially the only sockeye system within the management area. In 1987 the Chignik early run (Black Lake stock) escapement was 589,291 fish, while the late run escapement was 214,452 fish (Table 6). The early run escapement occurred over about a 9-week period (31 May - 1 August) and peaked in week 26 (21-27 June; Figure 5). In comparison the late run escapement occurred over a 15-week period (6 June - 19 September) and peaked in week 30 (19-25 July; Figure 6).

In 1987 there were six stream systems aside from the Chignik River system that had sockeye salmon escapements as determined from aerial surveys. A total of 637 sockeye salmon were counted in these streams (Appendix C.1). Assuming that this count represented the total number of sockeye salmon present in these streams at the peak of spawning and that a peak count represents 50% of the season escapement, then the total season sockeye escapement to these streams was 1,274 fish. Most of this escapement was in Mud Bay Creek (47%), Hook Bay Creek (24%), and Port Wrangell Creek (27%).

The early run escapement into the Chignik River is annually sampled at the outlet of Black Lake primarily to collect scale pattern standards for separating the early and late run stock components of the catch and escapement (Conrad 1984) and secondarily, for age and sex-specific length data for the early run forecast model. In 1987, 1,862 legible scales were collected there in weeks 26 and 27 (21 June - 4 July). Most of the fish there were either age 1.3 (75%) or age 2.3 (17%; Appendix B.7). The male and female length averages were essentially identical at 589 mm and 586 mm, respectively (Appendix B.8), and the average length for male and female sockeye combined was 587 mm. The overall male to female ratio was 0.7:1 (Appendix B.9).

The age composition of the escapement at the Black Lake outlet changed between week 26 and week 27 based on the Chi-square test ($P < .01$, df 5) (Appendix B.7). For example between week 26 and week 27 the percent composition of age-1.3 fish increased from 68% to 76%, while the percent of age-2.3 fish decreased from 24% to 15%. In-season shifts in age composition at Black Lake have been previously documented. In 1985 and 1986 significant age composition differences occurred between the weekly samples, but there was no pattern to the changes (Barrett 1988). Conrad (1984) speculated that the large salmon schools at the Black Lake outlet and the river may be segregated by time of arrival and age class composition. Consequently, the escapement samples obtained at the outlet may not be representative of the escapement. In contrast Burgner and Marshall (1974) recommended using the Black Lake age samples for the escapement age composition, and indicated that the Black Lake escapement age composition among the spawning grounds tended to be uniform. Based on the weekly shifts in age composition observed in 1985, 1986, and 1987, it is obvious that multiple escapement samples would have to be collected at Black Lake outlet to accurately describe the escapement age composition there. Multiple week escapement sampling at Black Lake is probably not justified because the existing scale analysis program provides an estimate of the age composition of the Black Lake escapement and catch, and because staffing is limited. However since the Black Lake samples are an integral component of the scale pattern analysis program used to separate the Black Lake and Chignik Lake runs and age-1.2 male length data are used to forecast the Black Lake run, it is recommended that future escapement sampling at the Black Lake outlet be performed with a 30.5-m (100-ft) seine instead of a 15.2-m (50-ft) seine to reduce potential size, age, and sex selectivity associated with the smaller length gear. There is evidence that male sockeye salmon tend to tangle more easily than females in seine netting because of morphological changes associated with spawning (S. Sharr, Alaska Department of Fish and Game, Kodiak, personal communication). There is also evidence that smaller length seines cause more fish avoidance, and are selective toward the smaller and younger age fish than longer length seines (L. White, Alaska Department of Fish and Game, Kodiak, personal communication). Thus these potential biases could be reduced by increasing the length of the seine used at the outlet of Black Lake.

The total 1987 sockeye run to the Chignik Management Area was 3,236,913 fish, and was comprised of 79% Black Lake stock and 21% Chignik Lake stock

(Table 6). Approximately 77% of the Black Lake run and 69% of the Chignik Lake run were harvested (Table 6). The combined harvest rate for both stocks was 75%.

Pink Salmon

The Chignik area catch was 246,775 pink salmon, an amount 64% below the 1965-85 odd-year average but 41% above the 1985 catch (Table 1). The majority of the catch was in the Western (76%), Perryville (14%), and Chignik Bay (6%) Districts (Table 2). Peak catches occurred in the Western and Perryville Districts during week 31 (26 July - 1 August) and in the Chignik District, a week later during week 32 (2-8 August; Table 2).

The escapement into 55 surveyed streams in the Western, Central, Eastern, and Perryville Districts was estimated to be 385,283 pink salmon (Appendices C.1 and C.2). Most of this escapement was in the Eastern (56%), Central (17%), and Perryville (17%) Districts. The Chignik River (Chignik Bay District) escapement was not counted. The total area pink run, not including the Chignik River escapement, was approximately 632,058 fish of which 39% were caught and 61% escaped to spawn (Table 2 and Appendix C.2).

Chum Salmon

The Chignik area chum catch for the season was 127,261 fish (Table 1). This was 36% below the 1977-86 average and 28% below the 1986 catch level. Most of the chum were caught in the Western (68%) and Perryville (13%) Districts (Table 2). The peak catch was in week 34 (16-22 August) in the Western District and week 35 (23-29 August) in the Perryville District. Surveyed streams within the management area supported an approximate 85,391 fish escapement, a level 63% above the 1985 escapement and 38% above the 1986 escapement. The Eastern District streams (45%) followed by the Western District streams (23%) had the highest escapements. Within the Eastern District the highest escapement was in the Chiginagak River (15,700 fish), while in the Western District the highest escapement was in Portage Bay Creek (10,168 fish). The total area chum run, less the Chignik River escapement, was approximately 212,652 fish of which 60% was catch and 40% was escapement (Table 2 and Appendix C.2).

Coho Salmon

The total season catch of 150,414 coho salmon was 34% higher than the 1977-86 average and 29% higher the 1986 level (Table 1). The highest catches were in the Chignik Bay (51%) and Western (39%) Districts. In the Chignik Bay District the peak catch was in week 36 (30 August - 5 September), while in the Western District the peak was in week 31 (26 July - 1 August; Table 2).

The majority of the area catch was age 2.1 (50%) and age 1.1 (47%) based on Chignik Bay District samples (Table 8, Appendices B.10 and B.11). Males were more numerous than the females by a 1.8:1 ratio (Appendix B.12), and the average coho length was 592 mm (Appendix B.13). Some coho escapement was already in area streams on 31 August which was when the last stream surveys were made (Appendix C.1).

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Table 1. The commercial salmon catch in the Chignik Management Area by species, 1960-87.

YEAR	Numbers of Fish					TOTAL
	CHINOOK	SOCKEYE	PINK	CHUM	COHO	
1960	643	715,969	557,327	486,699	8,933	1,769,571
1961	409	322,890	443,510	178,760	3,088	948,657
1962	435	364,753	1,519,305	364,335	1,292	2,250,120
1963	1,744	408,606	1,662,363	112,697	9,933	2,195,343
1964	1,099	560,703	1,682,365	333,336	2,735	2,580,238
1965	1,592	635,078	1,118,158	120,589	9,602	1,885,019
1966	636	224,615	683,215	238,883	16,050	1,163,399
1967	882	472,874	108,981	75,543	13,150	671,430
1968	674	878,449	1,290,660	223,861	2,200	2,395,844
1969	3,448	310,087	1,779,736	67,721	18,103	2,179,095
1970	1,225	1,327,664	1,287,605	464,674	15,348	3,096,516
1971	2,010	1,016,136	612,290	353,952	14,557	1,998,945
1972	464	378,669	72,240	78,356	19,615	549,344
1973	525	870,706	25,445	8,701	22,322	927,699
1974	255	662,905	70,017	34,454	12,245	779,876
1975	549	400,193	66,165	25,161	53,283	545,351
1976	763	1,135,572	388,917	80,221	35,301	1,640,774
1977	711	1,972,219	604,824	110,452	17,429	2,705,635
1978	1,603	1,576,283	985,114	120,889	20,212	2,704,101
1979	1,266	1,063,742	2,056,999	188,169	93,146	3,403,322
1980	2,325	846,356	1,125,465	312,572	117,862	2,404,580
1981	2,694	1,839,469	1,162,613	580,332	78,805	3,663,913
1982	5,236	1,521,857	873,390	390,096	300,384	3,090,963
1983	5,488	1,823,057	321,160	159,362	61,915	2,370,982
1984	4,318	2,662,449	446,184	63,408	110,128	3,286,487
1985	1,919	946,369	174,966	26,143	206,624	1,356,021
1986	3,037	1,645,834	647,125	176,640	116,633	2,589,269
1987	2,651	1,898,838	246,775	127,261	150,414	2,425,939

Average						
1960-1986	1,702	984,574	806,153	199,111	51,144	2,042,685

Average						
1977-86	2,860	1,589,764	839,784	212,806	112,314	2,757,527

Average						
1960-1987	1,736	1,017,227	786,176	196,545	54,690	2,056,373

Table 2. Chignik Management Area commercial salmon catch and effort by district and statistical week, 1987.

District	Stat. Week	Permits Fished	Landings	Catch (Number of Fish)					Total
				Chinook	Sockeye	Pink	Chum	Coho	
PERRYVILLE	24	0	0	0	0	0	0	0	0
	25	0	0	0	0	0	0	0	0
	26	0	0	0	0	0	0	0	0
	27	0	0	0	0	0	0	0	0
	28	-	3	0	2,053	38	190	15	2,296
	29	-	3	0	1,509	0	2,528	2	4,039
	30	0	0	0	0	0	0	0	0
	31	13	27	98	6,941	8,493	3,180	3,496	22,208
	32	12	21	44	2,424	21,592	4,454	941	29,455
	33	0	0	0	0	0	0	0	0
	34	-	-	0	0	139	89	84	312
	35	5	9	0	12	5,045	5,678	3,138	13,873
	36	-	-	0	2	32	156	2,152	2,342
	37	-	-	0	0	0	598	752	1,350
	38	0	0	0	0	0	0	0	0
	39	0	0	0	0	0	0	0	0
			Totals	142	12,941	35,339	16,873	10,580	75,875
WESTERN	23	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0
	25	0	0	0	0	0	0	0	0
	26	0	0	0	0	0	0	0	0
	27	0	0	0	0	0	0	0	0
	28	3	4	58	1,463	925	574	437	3,457

-Continued-

Table 2. (page 2 of 4)

District	Stat. Week	Permits Fished	Landings	Catch (Number of Fish)					Total
				Chinook	Sockeye	Pink	Chum	Coho	
WESTERN (cont.)	29	13	33	134	16,056	6,077	3,740	3,878	29,885
	30	0	0	0	0	0	0	0	0
	31	32	69	284	19,200	70,563	21,248	30,883	142,178
	32	70	136	30	12,970	55,327	11,431	6,913	86,671
	33	21	49	4	1,009	26,795	10,539	2,561	40,908
	34	23	53	2	3,089	22,609	27,697	6,350	59,747
	35	13	29	0	1,929	5,252	11,210	6,510	24,901
	36	-	-	0	695	110	413	1,035	2,253
	37	-	-	0	113	43	46	121	323
	38	0	0	0	0	0	0	0	0
	39	0	0	0	0	0	0	0	0
			Totals	512	56,524	187,701	86,898	58,688	390,323

CHIGNIK BAY	23	-	-	0	679	0	0	0	679
	24	93	238	11	187,754	0	0	0	187,765
	25	92	407	16	284,700	0	0	0	284,716
	26	91	330	79	285,549	0	4	0	285,632
	27	91	551	371	351,541	3	75	0	351,990
	28	87	304	638	151,046	6	68	0	151,758
	29	82	278	677	113,134	131	195	2	114,139
	30	-	-	0	720	0	0	0	720
	31	79	189	53	59,408	1,441	876	276	62,054
	32	-	-	0	15	0	0	47	62
	33	67	144	40	29,335	3,832	1,180	486	34,873
	34	58	144	23	23,320	6,778	1,609	4,218	35,948

-Continued-

Table 2. (page 3 of 4)

District	Stat. Week	Permits Fished	Landings	Catch (Number of Fish)					Total
				Chinook	Sockeye	Pink	Chum	Coho	
CHIGNIK BAY (cont.)	35	45	134	14	28,510	1,167	735	15,447	45,873
	36	45	143	8	20,011	469	284	30,803	51,575
	37	41	111	1	14,114	58	91	19,067	33,331
	38	16	42	0	7,362	2	42	5,933	13,339
	39	10	13	0	2,559	0	4	1,054	3,617
			Totals	1,931	1,559,757	13,887	5,163	77,333	1,658,071
EASTERN	23	0	0	0	0	0	0	0	0
	24	3	5	0	2,251	0	0	0	2,251
	25	4	9	0	6,335	0	0	0	6,335
	26	-	-	0	2,801	0	4	0	2,805
	27	-	4	0	2,831	0	8	0	2,839
	28	0	0	0	0	0	0	0	0
	29	-	-	0	138	70	58	5	271
	30	0	0	0	0	0	0	0	0
	31	6	9	6	142	2,009	8,820	2	10,979
	32	0	0	0	0	0	0	0	0
	33	0	0	0	0	0	0	0	0
	34	0	0	0	0	0	0	0	0
	35	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0
	37	0	0	0	0	0	0	0	0
	38	0	0	0	0	0	0	0	0
	39	0	0	0	0	0	0	0	0
			Totals	6	14,498	2,079	8,890	7	25,480

-Continued-

Table 2. (page 4 of 4)

District	Stat. Week	Permits Fished	Landings	Catch (Number of Fish)					Total
				Chinook	Sockeye	Pink	Chum	Coho	
CENTRAL	23	0	0	0	0	0	0	0	0
	24	13	23	2	14,199	0	11	0	14,212
	25	21	61	8	47,991	0	82	0	48,081
	26	17	46	6	44,511	3	1,033	0	45,553
	27	23	88	29	121,072	177	3,378	0	124,656
	28	28	65	2	14,992	13	626	0	15,633
	29	16	46	7	6,590	122	1,234	6	7,959
	30	0	0	0	0	0	0	0	0
	31	3	3	2	1,129	482	44	14	1,671
	33	4	6	3	879	4,090	1,018	178	6,168
	34	6	10	1	867	2,258	1,245	571	4,942
	35	-	-	0	367	348	229	641	1,585
	36	-	4	0	2,003	276	359	1,868	4,506
	37	-	4	0	518	0	178	528	1,224
	38	0	0	0	0	0	0	0	0
	39	0	0	0	0	0	0	0	0
			Totals	60	255,118	7,769	9,437	3,806	276,190
All Districts				2,651	1,898,838	246,775	127,261	150,414	2,425,939

Table 3. Chinook catch, escapement, run and exploitation rates for the Chignik River stock, 1960-87.

Year	Catch					Escapement ^b				
						Length			Total ^c	Run
	Commer- cial	Subsis- tence	Personal Use ^a	Sport (Fresh- water)	Total	<650 mm (Weir Count)	>650 mm Count)			
1960	643	75	100	50	868					
1961	409	75	100	50	634					
1962	435	75	100	50	660					
1963	1,744	75	100	50	1969	145	564	659	2,628	75%
1964	1,099	75	100	50	1324	236	914	1,100	2,424	55%
1965	1,592	75	100	50	1817	243	942	1,135	2,952	62%
1966	636	75	100	50	861	212	822	984	1,845	47%
1967	882	75	100	50	1107	387	1,500	1,837	2,944	38%
1968	674	75	100	50	899	258	1,000	1,208	2,107	43%
1969	3,448	75	100	50	3673	155	600	705	4,378	84%
1970	1,225	75	100	50	1450	645	2,500	3,095	4,545	32%
1971	2,010	75	100	50	2235	516	2,000	2,466	4,701	48%
1972	464	75	100	100	739	453	1,500	1,853	2,592	29%
1973	525	75	100	50	750	212	822	984	1,734	43%
1974	255	75	100	50	480	173	672	795	1,275	38%
1975	549	75	100	50	774	226	877	1,053	1,827	42%
1976	763	100	100	50	1013	181	700	831	1,844	55%
1977	711	50	100	50	911	206	798	954	1,865	49%
1978	1,603	50	100	69	1822	309	1,197	1,437	3,259	56%
1979	1,266	9	100	45	1420	271	1,050	1,276	2,696	53%
1980	2,325	6	100	55	2486	506	876	1,327	3,813	65%

-Continued-

Table 3. (page 2 of 2)

Year	Catch					Escapement ^b				
						Length			Total ^c	Run
	Commer- cial	Subsis- tence	Personal Use ^a	Sport (Fresh- water)	Total	<650 mm (Weir Count)	>650 mm Count)			
1981	2,694	100	100	80	2974	413	1,603	1,936	4,910	61%
1982	5,236	2	100	120	5458	622	2,412	2,914	8,372	65%
1983	5,488	0	100	180	5768	501	1,943	2,264	8,032	72%
1984	4,318	26	100	270	4714	1497	5,806	7,033	11,747	40%
1985	1,919	1	100	400	2420	594	3,144	3,338	5,758	42%
1986	3,037	6	100	450	3593	245	3,651	3,446	7,039	51%
1987	2,651	10	100	300	3061	285	2,695	2,680	5,741	53%
Average 1963-1986	1,853	55	100	103	2,111	383	1,579	1,859	3,970	52%

^a The data are subjective estimates.

^b Weir counts of chinook salmon do not include fish less than approximately 650 mm. Chinook salmon less than approximately 650 mm are counted as sockeye salmon due to the similarity in length. The number of chinook salmon smaller than 650 mm for 1986 and 1987 were estimated from length frequency data. The values for the other years were determined from relationship of marine age and length presented by Barrett (1988) where essentially all chinook salmon smaller than 650 mm in the Chignik River system are marine age -.2 or younger.

^c The sport catch has been deducted from the escapement estimates as the sport fishery occurs above the Chignik River weir.

Table 4. Chignik River chinook salmon returns from parent year escapements by age, 1966-87.

Parent Year	Escap.	Age RETURN BY AGE GROUP								Total Return	Return per Spawner ^a
		1.0	1.1	1.2	1.3	2.2	1.4	2.3	1.5		
1966	984	0	229	694	1,497	0	764	0	20	3,203	3.3
1967	1,837	0	238	717	1,228	0	788	18	14	3,004	1.6
1968	1,208	0	246	409	552	0	580	13	21	1,822	1.5
1969	705	0	191	265	406	0	831	19	21	1,733	2.5
1970	3,095	0	91	195	582	0	838	19	21	1,746	0.6
1971	2,466	0	67	279	587	0	848	20	37	1,837	0.7
1972	1,853	0	96	281	594	0	1,482	34	31	2,517	1.4
1973	984	0	97	285	1,038	0	1,226	28	93	2,766	2.8
1974	795	0	98	497	858	0	1,302	0	56	2,811	3.5
1975	1,053	0	171	411	1,023	0	2,233	52	95	3,984	3.8
1976	831	0	141	1,209	1,564	0	3,807	88	91	6,900	8.3
1977	954	0	186	749	2,666	0	3,652	84	133	7,472	7.8
1978	1,437	0	257	1,278	2,558	0	5,342	123	0	9,558	6.7
1979	1,276	0	438	1,226	3,741	0	3,338	0	148	8,891	7.0
1980	1,327	0	421	1,793	1,502	0	4,245	296	0	8,255	6.2
1981	1,936	0	615	417	1,908	0	2,486	0		5,426	2.8
1982	2,914	0	501	443	2,663	118					
1983	2,264	0	0	473							
1984	7,033	0	0								
1985	3,338	0									
1986	3,446										
1987	2,680										
Average										3.8	

^a Calculated by dividing total return by the parent escapement.

Table 5. Chignik River sockeye catches in the interception fisheries and Chignik Management Area, and the escapement, 1987.

Stat.	Date Week Calendar	Chignik River Escapement		Catches in the Chignik Management Area Districts						Catches in the Interception Areas		Total Catch
		Weekly	Cum.	Chignik Bay	Central	Eastern	Western	Perryville	Totals	Stepovak/Balboa /Beaver Bays	Cape Igvak	
22	5/24-5/30	348	348	0	0	0	0	0	0	0	0	0
23	5/31-6/06	17,427	17,775	679	0	0	0	0	679	0	0	679
24	6/07-6/13	128,078	145,853	187,754	14,199	2,251	0	0	204,204	28,718	38,633	271,555
25	6/14-6/20	66,636	212,489	284,700	47,991	6,335	0	0	339,026	25,943	113,869	478,838
26	6/21-6/27	207,879	420,368	285,549	44,511	2,801	0	0	332,861	81,445	83,382	497,688
27	6/28-7/04	21,543	441,911	351,541	121,072	2,831	0	0	475,444	0	8,274	483,718
28	7/05-7/11	98,723	540,634	151,046	14,992	0	1,463	2,053	169,554	0	8,876	178,430
29	7/12-7/18	25,862	566,496	113,134	6,590	138	16,056	1,509	137,427	8,573	67,420	213,420
30	7/19-7/25	126,511	693,007	720	0	0	0	0	720	2,113	542	3,375
31	7/26-8/01	23,983	716,990	59,408	1,129	142	19,200	6,941	86,820	14,009	19,739	120,568
32	8/02-8/08	26,047	743,037	15	879	0	12,970	2,424	16,288	12,915	2,590	31,793
33	8/09-8/15	29,123	772,160	29,335	867	0	1,009	0	31,211	0	0	31,211
34	8/16-8/22	12,003	784,163	23,320	367	0	3,089	0	26,776	1,595	61	28,432
35	8/23-8/29	5,529	789,692	28,510	2,003	0	1,929	12	32,454	0	0	32,454
36	8/30-9/05	4,251	793,943	20,011	518	0	695	2	21,226	1,178	16	22,420
37	9/06-9/12	3,703	797,646	14,114	0	0	113	0	14,227	8,299	0	22,526
38	9/13-9/19	2,059	799,705	7,362	0	0	0	0	7,362	4,527	0	11,889
39	9/20-9/26	1,238	800,943	2,559	0	0	0	0	2,559	1,568	0	4,127
40	9/27-10/03	1,630	802,573	0	0	0	0	0	0	0	0	0
41	10/4-10/10	1,170	803,743	0	0	0	0	0	0	47	0	47
Totals				1,559,757	255,118	14,498	56,524	12,941	1,898,838	190,930	343,402	2,433,170

Table 6. Age composition of the catch, escapement, and run of the Black Lake and Chignik Lake sockeye stocks based on scale pattern analysis.

		AGE															
Stock		0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Other	Total		
Black Lake																	
Catch:	No.	433	1,557	15,276	62,220	2,467	1,286,049	79,639	3,342	499,719	381	449	168	94	1,951,794		
	%	0.0	0.1	0.8	3.2	0.1	65.9	4.1	0.2	25.6	0.0	0.0	0.0	0.0	100.0		
Escap:	No.	46	635	4,539	19,985	594	383,309	30,846	1,066	147,274	149	225	514	109	589,291		
	%	0.0	0.1	0.8	3.4	0.1	65.0	5.2	0.2	25.0	0.0	0.0	0.1	0.0	100.0		
Run:	No.	479	2,192	19,815	82,205	3,061	1,669,358	110,485	4,408	646,993	530	674	682	203	2,541,085		
	%	0.0	0.1	0.8	3.2	0.1	65.7	4.3	0.2	25.5	0.0	0.0	0.0	0.0	100.0		

Chignik Lake																	
Catch:	No.	98	612	2,002	8,430	2,632	139,604	70,176	502	256,377	112	538	275	18	481,376		
	%	0.0	0.1	0.4	1.8	0.5	29.0	14.6	0.1	53.3	0.0	0.1	0.1	0.0	100.0		
Escap:	No.	22	302	713	3,695	1,192	54,865	38,314	162	114,044	39	292	795	17	214,452		
	%	0.0	0.1	0.3	1.7	0.6	25.6	17.9	0.1	53.2	0.0	0.1	0.4	0.0	100.0		
Run:	No.	120	914	2,715	12,125	3,824	194,469	108,490	66	370,421	151	830	1,070	35	695,828		
	%	0.0	0.1	0.4	1.7	0.5	27.9	15.6	0.1	53.2	0.0	0.1	0.2	0.0	100.0		

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Table 6. (page 2 of 2)

		AGE													
Stock		0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Other	Total
Combined															
Catch:	No.	531	2,169	17,278	70,650	5,099	1,425,653	149,815	3,844	756,096	493	987	443	112	2,433,170
	%	0.0	0.1	0.7	2.9	0.2	58.6	6.2	0.2	31.1	0.0	0.0	0.0	0.0	100.0
Escap:	No.	68	937	5,252	23,680	1,786	438,174	69,160	1,228	261,318	188	517	1,309	126	803,743
	%	0.0	0.1	0.7	2.9	0.2	54.5	8.6	0.2	32.5	0.0	0.1	0.2	0.0	100.0
Run:	No.	599	3,106	22,530	94,330	6,885	1,863,827	218,975	5,072	1,017,414	681	1,504	1,752	238	3,236,913
	%	0.0	0.1	0.7	2.9	0.2	57.6	6.8	0.2	31.4	0.0	0.0	0.1	0.0	100.0

Table 7. Age composition of sockeye catch samples from the Chignik Bay District, 1987.

Date		Age														
Stat.	Calendar			0.1	0.2	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.2	3.3
23	06-Jun	Number	589	0	0	8	0	31	441	3	0	17	89	0	0	0
		Percent		0.0	0.0	1.4	0.0	5.3	74.9	0.5	0.0	2.9	15.1	0.0	0.0	0.0
24	12-Jun	Number	544	0	0	6	0	29	424	2	0	8	74	0	1	0
		Percent		0.0	0.0	1.1	0.0	5.3	77.9	0.4	0.0	1.5	13.6	0.0	0.2	0.0
25	16-Jun	Number	630	0	0	7	0	25	474	1	1	17	105	0	0	0
		Percent		0.0	0.0	1.1	0.0	4.0	75.2	0.2	0.2	2.7	16.7	0.0	0.0	0.0
26	22-Jun	Number	596	0	0	5	1	20	433	1	1	11	124	0	0	0
		Percent		0.0	0.0	0.8	0.2	3.4	72.7	0.2	0.2	1.8	20.8	0.0	0.0	0.0
27	28-Jun	Number	120	0	0	1	0	5	86	0	0	4	24	0	0	0
		Percent		0.0	0.0	0.8	0.0	4.2	71.7	0.0	0.0	3.3	20.0	0.0	0.0	0.0
27	29-Jun	Number	421	0	1	2	0	18	284	0	0	12	104	0	0	0
		Percent		0.0	0.2	0.5	0.0	4.3	67.5	0.0	0.0	2.9	24.7	0.0	0.0	0.0
27	02-Jul	Number	574	0	0	3	0	11	326	2	1	22	209	0	0	0
		Percent		0.0	0.0	0.5	0.0	1.9	56.8	0.3	0.2	3.8	36.4	0.0	0.0	0.0
28	06-Jul	Number	581	0	0	7	0	5	278	1	0	31	259	0	0	0
		Percent		0.0	0.0	1.2	0.0	0.9	47.8	0.2	0.0	5.3	44.6	0.0	0.0	0.0
28	10-Jul	Number	558	1	0	0	3	12	271	0	0	39	232	0	0	0
		Percent		0.2	0.0	0.0	0.5	2.2	48.6	0.0	0.0	7.0	41.6	0.0	0.0	0.0

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Table 7. (page 2 of 2)

Date		Age														
Stat. Week	Calendar		0.1	0.2	0.3	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.2	3.3	
29	13-Jul	Number	478	0	1	2	3	11	183	0	1	56	220	1	0	0
		Percent		0.0	0.2	0.4	0.6	2.3	38.3	0.0	0.2	11.7	46.0	0.2	0.0	0.0
30	22-Jul	Number	517	0	0	1	0	4	138	0	1	104	266	2	0	1
		Percent		0.0	0.0	0.2	0.0	0.8	26.7	0.0	0.2	20.1	51.5	0.4	0.0	0.2
30	23-Jul	Number	36	0	0	0	0	1	10	0	0	7	17	0	0	1
		Percent		0.0	0.0	0.0	0.0	2.8	27.8	0.0	0.0	19.4	47.2	0.0	0.0	2.8
31	27-Jul	Number	115	0	0	1	0	2	20	0	1	27	64	0	0	0
		Percent		0.0	0.0	0.9	0.0	1.7	17.4	0.0	0.9	23.5	55.7	0.0	0.0	0.0
31	28-Jul	Number	445	0	0	0	0	1	104	1	5	104	228	2	0	0
		Percent		0.0	0.0	0.0	0.0	0.2	23.4	0.2	1.1	23.4	51.2	0.4	0.0	0.0
33	12-Aug	Number	548	0	0	1	2	4	64	0	7	162	308	0	0	0
		Percent		0.0	0.0	0.2	0.4	0.7	11.7	0.0	1.3	29.6	56.2	0.0	0.0	0.0
34	18-Aug	Number	514	0	0	1	0	5	55	0	10	92	350	0	1	0
		Percent		0.0	0.0	0.2	0.0	1.0	10.7	0.0	1.9	17.9	68.1	0.0	0.2	0.0
35	27-Aug	Number	50	0	0	0	0	0	10	0	0	5	35	0	0	0
		Percent		0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0	10.0	70.0	0.0	0.0	0.0

Table 8. Age composition of the coho salmon catch for the Chignik Management Area, 1987.

Statistical Week	Sample Size		Age			Total
			1.1	2.1	3.1	
34	81	Percent Numbers	42.0 25,758	51.9 31,819	6.2 3,788	100.0 61,365
35	0	Percent Numbers	47.6 12,243	49.2 12,670	3.2 823	100.0 25,736
36	311	Percent Numbers	51.8 32,776	47.3 29,926	1.0 611	100.0 63,313
Total	392	Percent Numbers	47.1 70,777	49.5 74,415	3.5 5,222	100.0 150,414

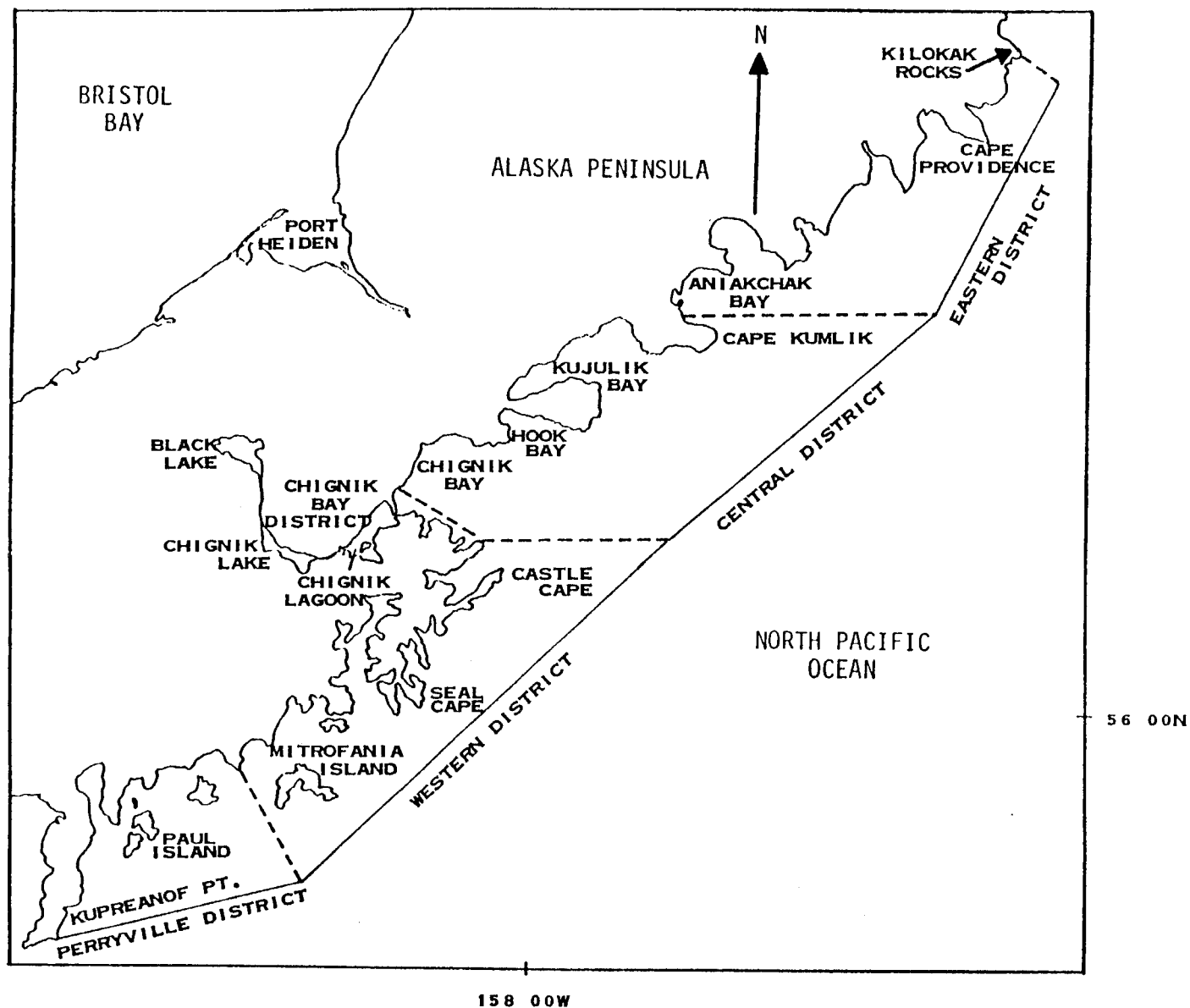


Figure 1. Map of the Chignik Management Area with the statistical fishing districts and some prominent landmarks identified.

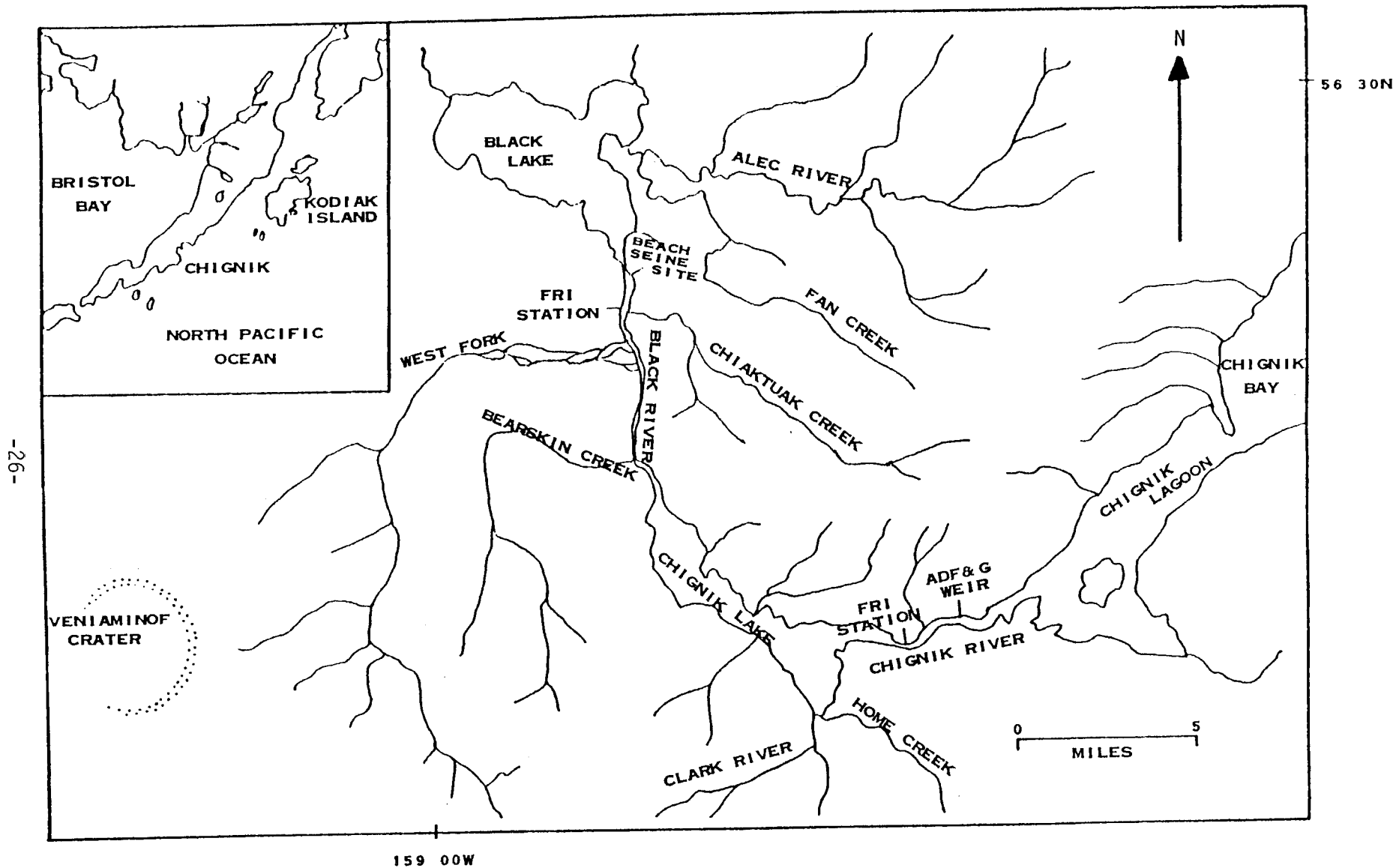


Figure 2. Map of the Chignik River drainage.

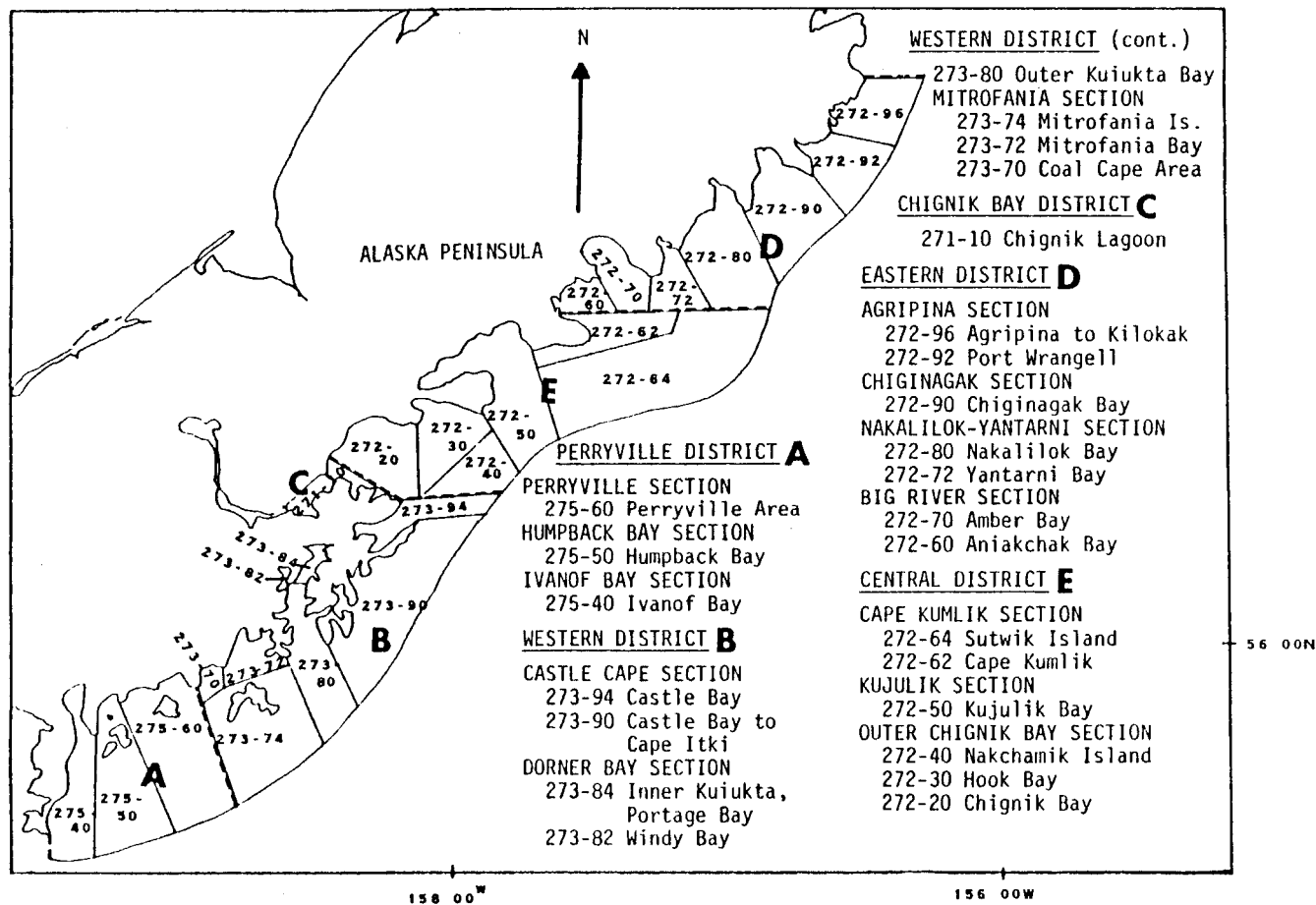


Figure 3. Map of the Chignik Management Area with the statistical fishing areas identified.

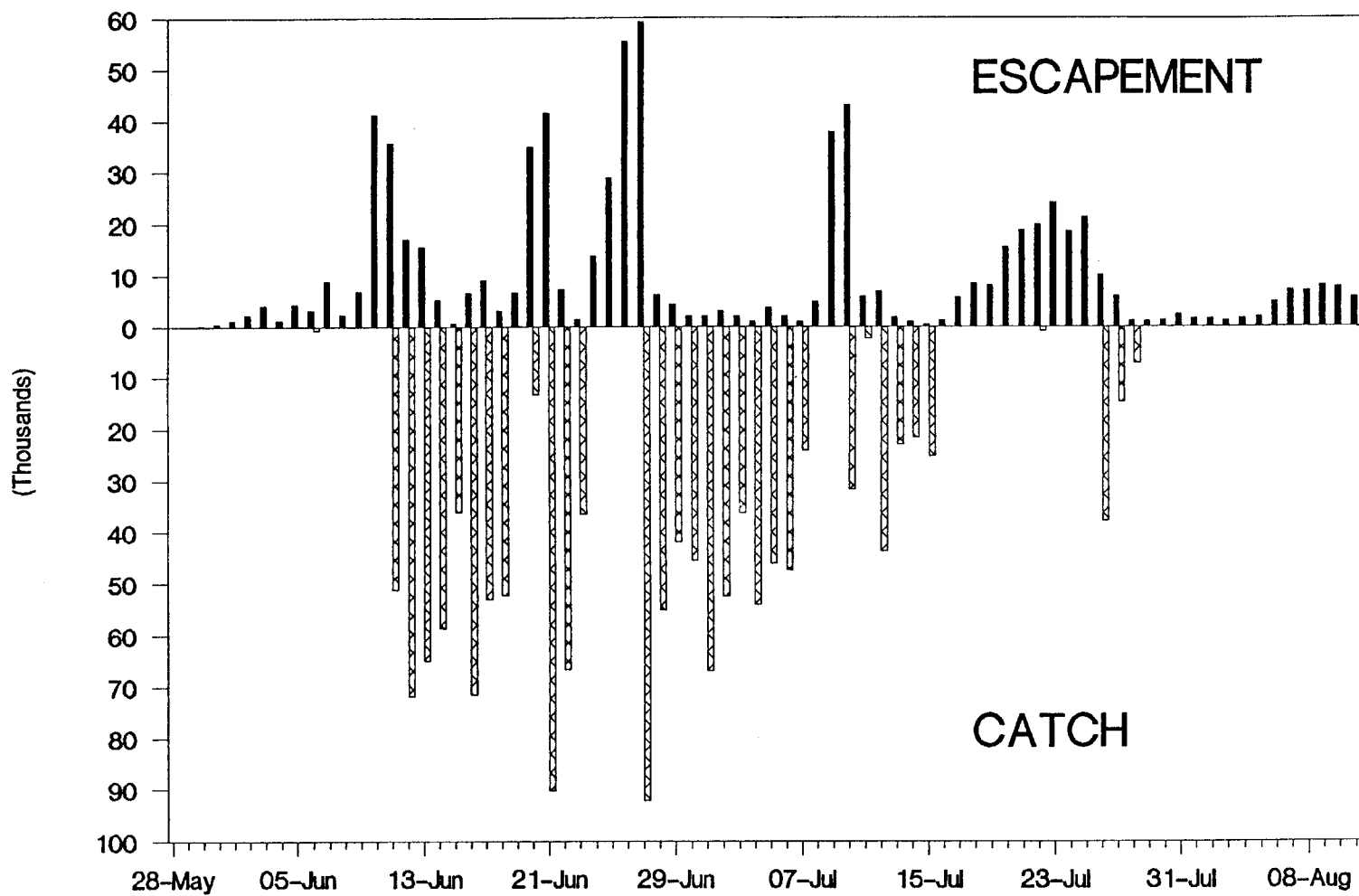


Figure 4. A comparison of the daily sockeye escapement counts at the Chignik weir with the daily sockeye catches in the Chignik Bay District, 1987.

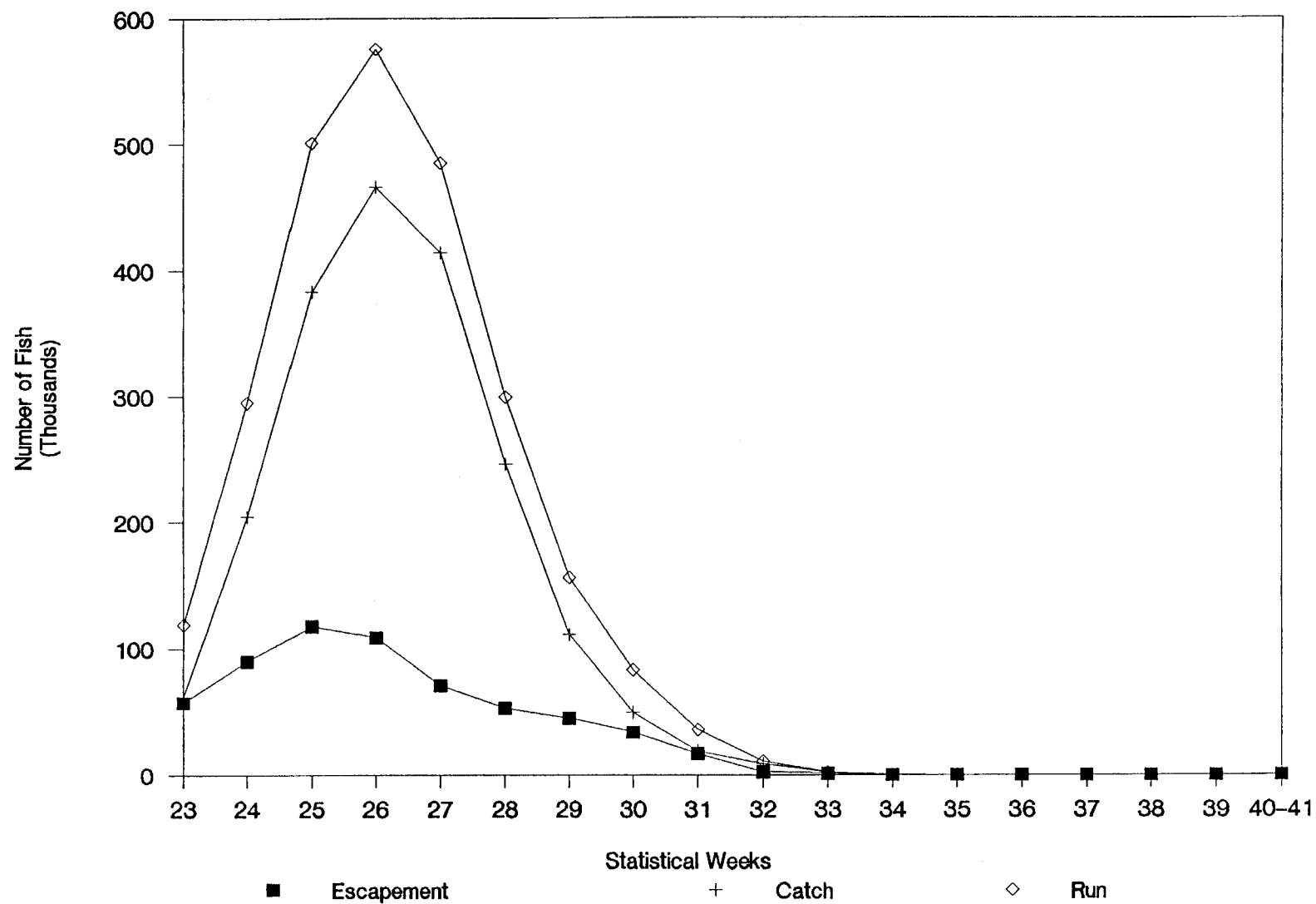


Figure 5. Timing of catch, escapement, and run for the Black Lake sockeye stock (adjusted to the Chignik Bay District), 1987.

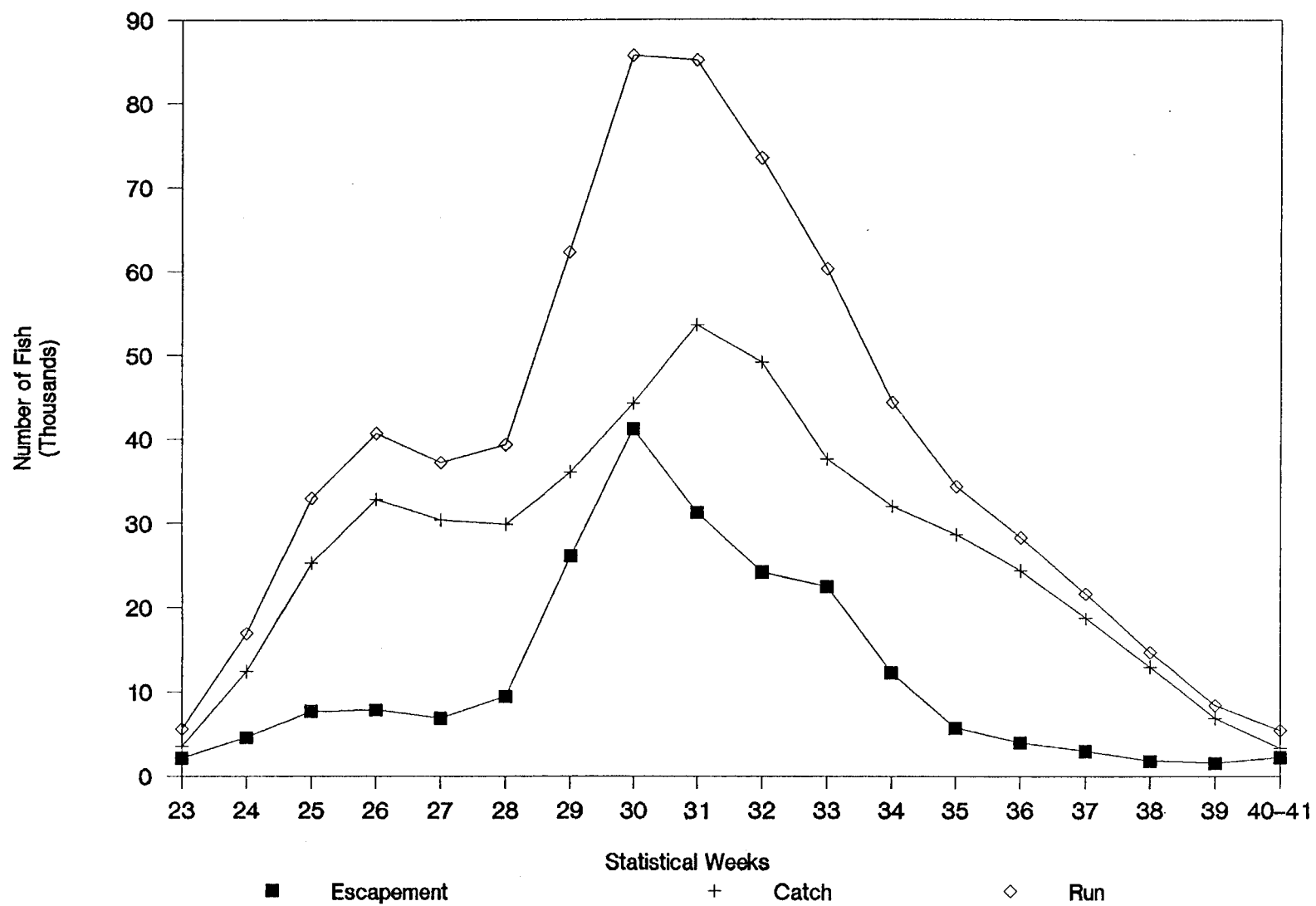


Figure 6. Timing of the catch, escapement, and run for the Chignik Lake sockeye stock (adjusted to the Chignik Bay District), 1987.

APPENDICES

Appendix A.1. 1987 calendar weeks.

STATISTICAL WEEK	CALENDAR DATES	STATISTICAL WEEK	CALENDAR DATES
1	01/01 to 01/03	28	07/05 to 07/11
2	01/04 to 01/10	29	07/12 to 07/18
3	01/11 to 01/17	30	07/19 to 07/25
4	01/18 to 01/24	31	07/26 to 08/01
5	01/25 to 01/31	32	08/02 to 08/08
6	02/01 to 02/07	33	08/09 to 08/15
7	02/08 to 02/14	34	08/16 to 08/22
8	02/15 to 02/21	35	08/23 to 08/29
9	02/22 to 02/28	36	08/30 to 09/05
10	03/01 to 03/07	37	09/06 to 09/12
11	03/08 to 03/14	38	09/13 to 09/19
12	03/15 to 03/21	39	09/20 to 09/26
13	03/22 to 03/28	40	09/27 to 10/03
14	03/29 to 04/04	41	10/04 to 10/10
15	04/05 to 04/11	42	10/11 to 10/17
16	04/12 to 04/18	43	10/18 to 10/24
17	04/19 to 04/25	44	10/25 to 10/31
18	04/26 to 05/02	45	11/01 to 11/07
19	05/03 to 05/09	46	11/08 to 11/14
20	05/10 to 05/16	47	11/15 to 11/21
21	05/17 to 05/23	48	11/22 to 11/28
22	05/24 to 05/30	49	11/29 to 12/05
23	05/31 to 06/06	50	12/06 to 12/12
24	06/07 to 06/13	51	12/13 to 12/19
25	06/14 to 06/20	52	12/20 to 12/26
26	06/21 to 06/27	53	12/27 to 12/31
27	06/28 to 07/04		

Appendix A.2. Chignik Bay District commercial catch and effort by subdistrict and week, 1987.

SUB-DISTRICT	STAT WEEK	EFFORT		CHINOOK		SOCKEYE		PINK		CHUM		COHO	
		BOATS	LANDINGS	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.
271-10	06/06	1	1	0	0	379	379	0	0	0	0	0	0
	06/13	94	239	11	11	188,054	188,433	0	0	0	0	0	0
	06/20	92	407	16	27	284,700	473,133	0	0	0	0	0	0
	06/27	91	330	79	106	285,549	758,682	0	0	4	4	0	0
	07/04	91	551	371	477	351,541	1,110,223	3	3	75	79	0	0
	07/11	87	304	638	1,115	151,046	1,261,269	6	9	68	147	0	0
	07/18	82	278	677	1,792	113,134	1,374,403	131	140	195	342	2	2
	07/25	1	1	0	1,792	720	1,375,123	0	140	0	342	0	2
	08/01	79	189	53	1,845	59,408	1,434,531	1,441	1,581	876	1,218	276	278
	08/08	1	1	0	1,845	15	1,434,546	0	1,581	0	1,218	47	325
	08/15	67	144	40	1,885	29,335	1,463,881	3,832	5,413	1,180	2,398	486	811
	08/22	58	144	23	1,908	23,320	1,487,201	6,778	12,191	1,609	4,007	4,218	5,029
	08/29	45	134	14	1,922	28,510	1,515,711	1,167	13,358	735	4,742	15,447	20,476
	09/05	45	143	8	1,930	20,011	1,535,722	469	13,827	284	5,026	30,803	51,279
	09/12	41	111	1	1,931	14,114	1,549,836	58	13,885	91	5,117	19,067	70,346
	09/19	16	42	0	1,931	7,362	1,557,198	2	13,887	42	5,159	5,933	76,279
	09/26	10	13	0	1,931	2,559	1,559,757	0	13,887	4	5,163	1,054	77,333
GRAND TOTAL		99	3,032	1,931		1,559,757		13,887		5,163		77,333	

Appendix A.3. Central District commercial catch and effort by subdistrict and week, 1987.

SUB-DISTRICT	STAT WEEK	EFFORT		CHINOOK		SOCKEYE		PINK		CHUM		COHO	
		BOATS	LANDINGS	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.
272-20	06/13	2	2	0	0	913	913	0	0	0	0	0	0
	06/20	3	3	0	0	1,630	2,543	0	0	0	0	0	0
	07/11	1	1	0	0	54	2,597	0	0	0	0	0	0
	08/01	1	1	0	0	559	3,156	205	205	0	0	0	0
	TOTAL	7	7	0		3,156		205		0		0	
	06/13	9	14	1	1	6,385	6,385	0	0	2	2	0	0
	06/20	9	17	1	2	13,829	20,214	0	0	19	21	0	0
	06/27	12	26	2	4	24,663	44,877	0	0	834	855	0	0
	07/04	15	42	23	27	51,964	96,841	7	7	1,329	2,184	0	0
	07/11	16	34	1	28	8,696	105,537	13	20	392	2,576	0	0
	07/18	13	39	7	35	5,985	111,522	122	142	1,169	3,745	3	3
	08/01	2	2	2	37	570	112,092	277	419	44	3,789	14	17
	08/15	4	6	3	40	879	112,971	4,090	4,509	1,018	4,807	178	195
	08/22	6	10	1	41	867	113,838	2,258	6,767	1,245	6,052	571	766
	08/29	1	2	0	41	367	114,205	348	7,115	229	6,281	641	1,407
	09/05	2	4	0	41	2,003	116,208	276	7,391	359	6,640	1,868	3,275
	09/12	2	4	0	41	518	116,726	0	7,391	178	6,818	528	3,803
	TOTAL	31	200	41		116,726		7,391		6,818		3,803	
272-30	06/13	4	4	0	0	4,033	4,033	0	0	9	9	0	0
	06/20	7	12	2	2	10,371	14,404	0	0	37	46	0	0
	07/11	2	2	0	2	115	14,519	0	0	3	49	0	0
	TOTAL	10	18	2		14,519		0		49		0	

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Appendix A.3. (page 2 of 2)

SUB-DISTRICT	STAT WEEK	EFFORT		CHINOOK		Sockeye		PINK		CHUM		COHO	
		BOATS	LANDINGS	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.
272-40	06/13	2	2	1	1	2,026	2,026	0	0	0	0	0	0
	06/20	11	29	5	6	22,161	24,187	0	0	26	26	0	0
	06/27	9	18	4	10	18,886	43,073	0	0	190	216	0	0
	07/04	11	43	6	16	67,970	111,043	163	163	2,024	2,240	0	0
	07/11	17	28	1	17	6,127	117,170	0	163	231	2,471	0	0
	07/18	4	7	0	17	605	117,775	0	163	65	2,536	3	3
	TOTAL	21	127	17		117,775		163		2,536		3	
272-50	06/13	1	1	0	0	842	842	0	0	0	0	0	0
	06/27	2	2	0	0	962	1,804	3	3	9	9	0	0
	07/04	3	3	0	0	1,138	2,942	7	10	25	34	0	0
	TOTAL	3	6	0		2,942		10		34		0	
GRAND TOTAL		41	358	60		255,118		7,769		9,437		3,806	

Appendix A.4. Eastern District commercial catch and effort by subdistrict and week, 1987.

SUB-DISTRICT	STAT WEEK	EFFORT		CHINOOK		SCKEYE		PINK		CHUM		COHO	
		BOATS	LANDINGS	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.
272-60	06/13	3	5	0	0	2,251	2,251	0	0	0	0	0	0
	06/20	4	9	0	0	6,335	8,586	0	0	0	0	0	0
	06/27	2	2	0	0	2,801	11,387	0	0	4	4	0	0
	07/04	2	4	0	0	2,831	14,218	0	0	8	12	0	0
	TOTAL	4	20	0		14,218		0		12		0	
272-70	08/01	1	1	0	0	102	102	0	0	509	509	0	0
	TOTAL	1	1	0		102		0		509		0	
272-72	08/01	3	3	0	0	28	28	228	228	5,002	5,002	0	0
	TOTAL	3	3	0		28		228		5,002		0	
272-80	08/01	2	2	0	0	2	2	258	258	1,759	1,759	2	2
	TOTAL	2	2	0		2		258		1,759		2	
272-90	08/01	3	3	6	6	10	10	1,523	1,523	1,550	1,550	0	0
	TOTAL	3	3	6		10		1,523		1,550		0	
272-92	07/18	1	1	0	0	138	138	70	70	58	58	5	5
	TOTAL	1	1	0		138		70		58		5	
GRAND TOTAL		11	30	6		14,498		2,079		8,890		7	

Appendix A.5. Western District commercial catch and effort by subdistrict and week, 1987.

SUB-DISTRICT	STAT WEEK	EFFORT		CHINOOK		SOCKEYE		PINK		CHUM		COHO	
		BOATS	LANDINGS	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.
273-72	07/18	1	1	1	1	666	666	33	33	78	78	0	0
	TOTAL	1	1	1		666		33		78		0	
273-74	07/11	3	4	58	58	1,463	1,463	925	925	574	574	437	437
	07/18	7	20	128	186	7,068	8,531	5,738	6,663	2,906	3,480	3,858	4,295
	08/01	15	34	249	435	5,838	14,369	34,989	41,652	9,730	13,210	19,031	23,326
	08/08	16	29	16	451	2,716	17,085	26,912	68,564	4,479	17,689	4,490	27,816
	08/29	4	5	0	451	105	17,190	1,361	69,925	952	18,641	1,490	29,306
	TOTAL	26	92	451		17,190		69,925		18,641		29,306	
273-80	07/18	5	7	3	3	5,681	5,681	218	218	497	497	11	11
	08/22	2	2	0	3	0	5,681	908	1,126	4,028	4,525	2	13
	08/29	7	9	0	3	508	6,189	1,781	2,907	6,934	11,459	1,049	1,062
	09/05	1	1	0	3	235	6,424	40	2,947	160	11,619	525	1,587
	TOTAL	13	19	3		6,424		2,947		11,619		1,587	
273-84	08/22	6	6	0	0	36	36	1,563	1,563	12,038	12,038	47	47
	08/29	2	2	0	0	0	36	181	1,744	1,097	13,135	8	55
	TOTAL	8	8	0		36		1,744		13,135		55	
273-90	07/18	5	5	2	2	2,641	2,641	88	88	259	259	9	9
	08/01	19	34	35	37	13,318	15,959	35,448	35,536	11,458	11,717	11,804	11,813
	08/08	39	70	9	46	8,396	24,355	19,168	54,704	6,174	17,891	2,139	13,952
	08/15	11	25	3	49	495	24,850	18,739	73,443	7,869	25,760	1,822	15,774
	08/22	19	43	2	51	3,023	27,873	19,931	93,374	11,561	37,321	6,266	22,040
	08/29	8	13	0	51	1,316	29,189	1,929	95,303	2,227	39,548	3,963	26,003

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Appendix A.5. (Page 2 of 2)

SUB-DISTRICT	STAT WEEK	EFFORT		CHINOOK		SOCKEYE		PINK		CHUM		COHO	
		BOATS	LANDINGS	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.
	09/05	1	1	0	51	460	29,649	70	95,373	253	39,801	510	26,513
	09/12	1	1	0	51	113	29,762	43	95,416	46	39,847	121	26,634
	TOTAL	54	192	51		29,762		95,416		39,847		26,634	
<hr/>													
273-94	08/01	1	1	0	0	44	44	126	126	60	60	48	48
	08/08	32	37	5	5	1,858	1,902	9,247	9,373	778	838	284	332
	08/15	13	24	1	6	514	2,416	8,056	17,429	2,670	3,508	739	1,071
	08/22	2	2	0	6	30	2,446	207	17,636	70	3,578	35	1,106
	TOTAL	42	64	6		2,446		17,636		3,578		1,106	
<hr/>													
GRAND TOTAL		80	376	512		56,524		187,701		86,898		58,688	

Appendix A.6. Perryville District commercial catch and effort by subdistrict and week, 1987.

SUB-DISTRICT	STAT WEEK	EFFORT		CHINOOK		SOCKEYE		PINK		CHUM		COHO	
		BOATS	LANDINGS	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.	DAILY	CUM.
275-40	07/11	2	3	0	0	2,053	2,053	38	38	190	190	15	15
	07/18	1	3	0	0	1,509	3,562	0	38	2,528	2,718	2	17
	08/01	12	18	71	71	4,411	7,973	4,623	4,661	1,507	4,225	1,941	1,958
	08/08	8	11	44	115	1,146	9,119	6,025	10,686	1,827	6,052	320	2,278
	08/22	1	1	0	115	0	9,119	139	10,825	89	6,141	84	2,362
	08/29	5	9	0	115	12	9,131	5,045	15,870	5,678	11,819	3,138	5,500
	09/05	1	1	0	115	2	9,133	32	15,902	156	11,975	2,152	7,652
	09/12	1	1	0	115	0	9,133	0	15,902	598	12,573	752	8,404
	TOTAL	23	47	115		9,133		15,902		12,573		8,404	
275-50	08/01	7	9	27	27	2,530	2,530	3,870	3,870	1,673	1,673	1,555	1,555
	08/08	7	10	0	27	1,278	3,808	15,567	19,437	2,627	4,300	621	2,176
	TOTAL	13	19	27		3,808		19,437		4,300		2,176	
GRAND TOTAL		26	66	142		12,941		35,339		16,873		10,580	
ALL AREAS COMBINED		105	3,862	2,651		1,898,838		246,775		127,261		150,414	

Appendix B.1. Daily and cumulative chinook escapement into the Chignik River, 1987.

Statistical Week	Date	Daily Escap.	Cum. Escap.	Statistical Week	Date	Daily Escap.	Cum. Escap.
22	27-May	0	0	28	05-Jul	18	348
22	28-May	0	0	28	06-Jul	0	348
22	29-May	0	0	28	07-Jul	6	354
22	30-May	0	0	28	08-Jul	96	450
				28	09-Jul	60	510
23	31-May	0	0	28	10-Jul	270	780
23	01-Jun	0	0	28	11-Jul	108	888
23	02-Jun	0	0				
23	03-Jun	0	0	29	12-Jul	162	1,050
23	04-Jun	0	0	29	13-Jul	42	1,092
23	05-Jun	0	0	29	14-Jul	96	1,188
23	06-Jun	0	0	29	15-Jul	36	1,224
				29	16-Jul	24	1,248
24	07-Jun	0	0	29	17-Jul	18	1,266
24	08-Jun	0	0	29	18-Jul	43	1,309
24	09-Jun	0	0				
24	10-Jun	0	0	30	19-Jul	74	1,383
24	11-Jun	0	0	30	20-Jul	186	1,569
24	12-Jun	0	0	30	21-Jul	222	1,791
24	13-Jun	0	0	30	22-Jul	144	1,935
				30	23-Jul	114	2,049
25	14-Jun	0	0	30	24-Jul	102	2,151
25	15-Jun	0	0	30	25-Jul	137	2,288
25	16-Jun	0	0				
25	17-Jun	6	6	31	26-Jul	36	2,324
25	18-Jun	0	6	31	27-Jul	30	2,354
25	19-Jun	0	6	31	28-Jul	24	2,378
25	20-Jun	0	6	31	29-Jul	18	2,396
				31	30-Jul	12	2,408
26	21-Jun	0	6	31	31-Jul	12	2,420
26	22-Jun	12	18	31	01-Aug	12	2,432
26	23-Jun	0	18				
26	24-Jun	0	18	32	02-Aug	6	2,438
26	25-Jun	0	18	32	03-Aug	12	2,450
26	26-Jun	18	36	32	04-Aug	6	2,456
26	27-Jun	126	162	32	05-Aug	24	2,480
				32	06-Aug	36	2,516
27	28-Jun	36	198	32	07-Aug	42	2,558
27	29-Jun	30	228	32	08-Aug	18	2,576
27	30-Jun	0	228				
27	01-Jul	24	252	33	09-Aug	6	2,582
27	02-Jul	60	312	33		18	2,600
27	03-Jul	18	330	33	11-Aug	24	2,624
27	04-Jul	0	330		(Weir removed	12-August)	
					Est. post 11-Aug. escap.	71	2,695

Appendix B.2. Age composition of the Chignik River chinook
run by statistical week, 1987.

Statistical Week	Sample Size		AGE				Total
			1.2	1.3	2.2	1.4	
22-41	49	Males					
		Percent	14.3	51.0	4.1	30.6	100.0
		Numbers	385	1,377	110	826	2,698
		SE	144	244	79	201	
22-41	47	Females					
		Percent	0.0	42.6	0.0	57.4	100.0
		Numbers	0	1,210	0	1,633	2,843
		SE	0	234	0	258	
22-41	97	All Fish					
		Percent	8.2	46.4	2.1	43.3	100.0
		Numbers	457	2,571	114	2,399	5,541
		SE	156	282	80	280	

Appendix B.3. Length composition of the Chignik River chinook escape-
ment by age and sex, 1987.

	AGE					
	1.2	1.3	2.2	1.4	unaged	Total
<i>Females</i>						
Mean Length	0	854	0	938	852	892
SE	-	11	-	9	28	10
Range	0-0	705-950	0-0	785-1010	585-950	585-1010
Sample Size	0	20	0	27	12	59
<i>Males</i>						
Mean Length	605	833	608	960	717	816
SE	19	19	43	40	82	23
Range	535-675	630-980	565-650	720-1380	480-965	480-1380
Sample Size	7	25	2	15	7	56
<i>All Fish</i>						
Mean Length	605	842	608	946	803	855
SE	19	12	43	15	37	13
Range	535-675	630-980	565-650	720-1380	480-965	480-1380
Sample Size	7	45	2	42	19	115

Appendix B.4. Sex composition of the Chignik River chinook run by statistical week, 1987.

Statistical Weeks	Sample		Total	Percent Females	Percent Males	Females	Males	Total
	Females	Males						
22-41	59	56	115	51.3	48.7	2,843	2,698	5,541
Total	59	56	115	51.3	48.7	2,843	2,698	5,541

Appendix B.5. Length composition of the Chignik Bay District sockeye catch by age and sex, 1987.

	AGE													
	0.1	0.2	1.1	0.3	1.2	2.1	1.3	2.2	1.4	2.3	3.2	2.4	3.3	Total
Females														
Mean Length	0	518	0	577	513	0	583	509	558	579	562	569	564	576
SE	-	-	-	4	4	-	0	2	25	1	18	24	-	0
Range	0-0	518-518	0-0	538-621	463-586	0-0	491-647	428-606	504-608	442-653	544-580	532-614	564-564	428-653
Sample Size	0	1	0	29	43	0	2,243	243	4	1,575	2	3	1	4,144
Males														
Mean Length	413	472	340	596	470	344	606	487	616	603	0	642	578	578
SE	-	-	8	8	4	5	1	2	18	1	-	6	-	1
Range	413-413	472-472	310-371	532-631	395-644	300-440	420-664	388-650	527-660	424-666	0-0	636-648	578-578	300-666
Sample Size	1	1	9	16	141	28	1,353	473	7	1,132	0	2	1	3,164
All Fish														
Mean Length	413	495	340	584	480	344	591	495	595	589	562	598	571	577
SE	-	23	8	4	4	5	0	2	16	1	18	22	7	1
Range	413-413	472-518	310-371	532-631	395-644	300-440	420-664	388-650	504-660	424-666	544-580	532-648	564-578	300-666
Sample Size	1	2	9	45	184	28	3,596	716	11	2,707	2	5	2	7,308

Appendix B.6. Sex composition of the Chignik Lagoon sockeye catch by statistical week, 1987.

Statistical Week	Sample			Catch				
	Females	Males	Total	Percent Females	Percent Males	Females	Males	Total
23	389	251	640	60.8	39.2	413	266	679
24	382	209	591	64.6	35.4	121,357	66,397	187,754
25	447	233	680	65.7	34.3	187,148	97,552	284,700
26	430	210	640	67.2	32.8	191,853	93,696	285,549
27	754	515	1,269	59.4	40.6	208,875	142,666	351,541
28	690	568	1,258	54.8	45.2	82,847	68,199	151,046
29	270	280	550	49.1	50.9	55,539	57,595	113,134
30	352	287	639	55.1	44.9	397	323	720
31-32	400	470	870	46.0	54.0	27,321	32,102	59,423
33	316	319	635	49.8	50.2	14,598	14,737	29,335
34	316	319	635	49.8	50.2	11,605	11,715	23,320
35-41	60	48	108	55.6	44.4	40,309	32,247	72,556
Total	4,806	3,709	8,515	60.4	39.6	942,262	617,495	1,559,757

Appendix B.7. Age composition of the sockeye escapement sampled at the outlet of Black Lake, 1987.

Stat. Week	AGE						Total
	0.3	1.2	1.3	1.4	2.2	2.3	
26	Number	0	20	241	0	8	354
	Percent	0.0	5.6	68.1	0.0	2.3	100.0
27	Number	19	69	1,150	2	37	1,508
	Percent	1.3	4.6	76.3	0.1	2.5	100.0
Combined							
	Number	19	89	1,391	2	45	1,862
	Percent	1.0	4.8	74.7	0.1	2.4	100.0

Appendix B.8. Length composition of the Black Lake sockeye escapement sampled at the outlet of Black Lake by age and sex, 1987.

	AGE						
	0.3	1.2	1.3	2.2	1.4	2.3	Total
<i>Females</i>							
Mean Length	589	526	587	532	621	588	586
SE	7	6	1	15	-	2	1
Range	564-670	476-568	435-687	482-606	621-621	504-639	435-687
Sample Size	13	16	867	8	1	176	1,081
<i>Males</i>							
Mean Length	605	473	606	473	652	612	589
SE	15	6	2	8	-	3	2
Range	541-656	389-615	437-680	397-635	652-652	430-662	389-680
Sample Size	6	73	523	37	1	140	780
<i>All Fish</i>							
Mean Length	594	483	594	484	637	599	587
SE	7	6	1	8	16	2	1
Range	541-670	389-615	435-687	397-635	621-652	430-662	389-687
Sample Size	19	89	1,390	45	2	316	1,861

Appendix B.9. Sex composition of the sockeye escapement sampled at the outlet of Black Lake, 1987.

Sample			Percent		Male to Female Ratio
Males	Females	Total	Males	Females	
780	1,081	1,861	41.9	58.1	0.7:1

Appendix B.10. Age composition of the male coho salmon catch for the Chignik Management Area, 1987.

Statistical Week	Sample Size		AGE			Total
			1.1	2.1	3.1	
34	56	Percent Numbers	44.6 18,928	50.0 21,199	5.4 2,271	100.0 42,398
35 ^a	0	Percent Numbers	50.7 8,539	47.0 7,920	2.3 387	100.0 16,845
36	201	Percent Numbers	55.2 21,932	44.8 17,783	0.0 0	100.0 39,715
Total	257	Percent Numbers	49.9 49,399	47.4 46,902	2.7 2,658	100.0 98,958

^a Age composition for statistical week 35 is interpolated from the daily catch samples taken in statistical weeks 34 and 36.

Appendix B.11. Age composition of the female coho salmon catch for the Chignik Management Area, 1987.

Statistical Week	Sample Size		AGE			Total
			1.1	2.1	3.1	
34	25	Percent Numbers	36.0 6,828	56.0 10,622	8.0 1,517	100.0 18,967
35 ^a	0	Percent Numbers	41.4 3,681	53.6 4,766	5.0 443	100.0 8,891
36	110	Percent Numbers	45.5 10,727	51.8 12,228	2.7 644	100.0 23,598
Total	135	Percent Numbers	41.3 21,236	53.7 27,616	5.1 2,604	100.0 51,456

^a Age composition is interpolated from daily catch samples collected in statistical weeks 24 and 35.

Appendix B.12. Sex composition of the Chignik Management Area coho catch, 1987.

Statistical Week	Sample			Catch ^a				
	Females	Males	Total	Percent Females	Percent Males	Females	Males	Total
34	34	76	110	30.9	69.1	18,967	42,398	61,365
35	0	0	0	34.5	65.5	8,891	16,845	25,736
36	164	276	440	37.3	62.7	23,598	39,715	63,313
Total	198	352	550	34.2	65.8	51,456	98,958	150,414

^a Numbers of fish by sex and percent of catch by sex are interpolated estimates from catch sampling data.

Appendix B.13. Length composition of the Chignik Management Area coho catch samples by age and sex, statistical weeks 34 and 36, 1987.

	AGE			
	1.1	2.1	3.1	Total
<i>Females</i>				
Mean Length	587	598	556	592
SE	5	5	23	3
Range	503-648	445-663	470-609	445-663
Sample Size	59	71	5	135
<i>Males</i>				
Mean Length	589	599	540	593
SE	4	4	50	3
Range	430-682	417-695	466-634	417-695
Sample Size	136	118	3	257
<i>All Fish</i>				
Mean Length	588	598	550	592
SE	3	3	22	2
Range	430-682	417-695	466-634	417-695
Sample Size	195	189	8	392

Appendix C.1. Salmon escapement survey counts in the Chignik Management Area, 1987.

District	Stream Number	Stream Name	Calander		Survey	Species					Observer	Remarks
			Day	Date		Cond.	Chinook	Sockeye	Pink	Chum	Coho	
Chignik Bay	271 -106	Neketa			Not Surveyed							
	271 -105	Dago Frank			Not Surveyed							
	271 -104	Alfred			Not Surveyed							
	271 -102 B	Mallard Bay	225	13-Aug	Excel.		0	0	0	100	0 Probasco	Approx. 6,800 chums in bay--these will likely be harvested illegally
	271 -102 C	Mud Bay	225	13-Aug	Good		0	300	0	0	0 Probasco	Sockeye counted in lake
Western	273 -845	Dog Bay	212	31-Jul	Excel.		0	0	0	0	0 Fox	Approx. 200 chums in bay
	273 -845		225	13-Aug	Good		0	0	0	100	0 Probasco	Approx. 50 chums in bay
	273 -845		229	17-Aug	Excel.		0	0	0	400	0 Probasco	
			245	02-Sep	Fair		0	0	0	200	0 Fox	Additional 1,500 chum carcasses in cr.; 300 cohos off mouth
	273 -844	unnamed	212	31-Jul	Excel.		0	0	0	5	0 Fox	
	273 -844		218	06-Aug	Fair		0	0	0	0	0 Probasco	
	273 -844		225	13-Aug	Good		0	0	0	0	0 Probasco	
	273 -844		229	17-Aug	Excel.		0	0	0	0	0 Probasco	
			245	02-Sep	Fair		0	0	0	30	0 Fox	
	273 -843	Seal Bay	205	24-Jul	Excel.		0	0	0	0	0 Staak	Approx. 500 chums off cr. mouth & 2,500 chums along shore between cr.'s 842 & 843

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District	Stream Number	Stream Name	Calander		Survey Cond.	Species-----					Observer	Remarks
			Day	Date		Chinook	Sockeye	Pink	Chum	Coho		
	273 -843		212	31-Jul	Excel.	0	0	0	45	0	Fox	
	273 -843		218	06-Aug	Fair	0	0	0	50	0	Probasco	
	273 -843		225	13-Aug	Good	0	0	0	110	0	Probasco	
	273 -843		229	17-Aug	Excel.	0	0	0	1400	0	Probasco	
	273 -843		233	21-Aug	Excel.	0	0	500	3900	0	Fox	
	273 -843		234	22-Aug	Excel.						Probasco	Approx. 8,000 chums in bay
	273 -843		245	02-Sep	Fair	0	0	0	1100	0	Fox	
	273 -842	Portage Bay	194	13-Jul	Excel.	0	0	0	0	0	Staak	Approx. 75 chums off stream mouth
	273 -842		201	20-Jul	Excel.	0	0	0	5	0	Fox	Approx. 25 chums off stream mouth
	273 -842		205	24-Jul	Excel.	0	0	0	0	0	Staak	
	273 -842		211	30-Jul	Excel.	0	0	0	40	0	Fox	
	273 -842		212	31-Jul	Excel.	0	0	0	2642	0	Fox	Approx. 170 chums off stream mouth
	273 -842		218	06-Aug	Fair	0	0	0	200	0	Probasco	Approx. 1,000 chums off stream mouth
	273 -842		225	13-Aug	Good	0	0	0	1500	0	Probasco	Many jumpers in bay
	273 -842		229	17-Aug	Excel.	0	0	0	3400	0	Probasco	Approx. 3,000 chums off flats & 63,000 chums between cr.'s 842 & 843
	273 -842		233	21-Aug	Excel.	0	0	0	3500	0	Fox	Approx. 2,000 chums off cr. mouth, & 14,400 chums and 5,800 pinks in bay
	273 -842		234	22-Aug	Excel.	0	0	0	6400	0	Probasco	Approx. 32,000 chums in bay
	273 -842		245	02-Sep	Fair	0	0	0	5600	0	Fox	Coho jumpers off mouth; too windy to count
	273 -823	Spoon	212	31-Jul	Excel.	0	0	0	1	0	Fox	Approx. 500 chums off mouth
	273 -823		229	17-Aug	Excel.	0	0	30	0	0	Probasco	
	273 -823		247	04-Sep	Excel.	0	0	0	0	0	Fox	

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District	Stream Number	Stream Name	Calander		Survey Cond.	Species					Observer	Remarks
			Day	Date		Chinook	Sockeye	Pink	Chum	Coho		
	273 -822	unnamed	212	31-Jul	Excel.	0	0	0	15	0	Fox	Approx. 250 chums off mouth
	273 -822		229	17-Aug	Excel.	0	0	0	0	0	Probasco	
			247	04-Sep	Excel.	0	0	0	2	0	Fox	Approx. 10 chums off mouth
	273 -821	unnamed	212	31-Jul	Excel.	0	0	0	0	0	Fox	Approx. 300 chums off mouth
	273 -821		225	13-Aug	Excel.	0	0	15	0	0	Probasco	
	273 -821		229	17-Aug	Excel.	0	0	100	0	0	Probasco	Approx. 500 pinks off mouth
			247	04-Sep	Excel.	0	0	300	0	0	Fox	Low water conditions
	273 -802	Foot Bay	194	13-Jul	Excel.	0	0	0	0	0	Staak	Approx. 30 chums off mouth
	273 -802		201	20-Jul	Excel.	0	0	0	40	0	Fox	
	273 -802		212	31-Jul	Excel.	0	0	0	1000	0	Probasco	Approx. 450 chums off mouth
	273 -802		225	13-Aug	Excel.	0	0	0	0	0	Probasco	
	273 -802		229	17-Aug	Excel.	0	0	900	0	0	Probasco	
	273 -802		231	19-Aug	Excel.	0	0	450	0	0	Fox	
			247	04-Sep	Excel.	0	0	5300	100	0	Fox	Creek low
	273 -723	Fishrack	194	13-Jul	Excel.	0	0	0	0	0	Staak	
	273 -723		212	31-Jul	Excel.	0	0	0	0	0	Fox	Approx. 750 pinks off mouth
	273 -723		225	13-Aug	Good	0	0	0	0	0	Probasco	
	273 -723		229	17-Aug	Excel.	0	0	90	0	0	Probasco	Approx. 140 pinks in bay
	273 -723		231	19-Aug	Excel.	0	0	100	0	0	Fox	Approx. 1,150 pinks in bay
			247	04-Sep	Excel.	0	0	2100	0	0	Fox	
	273 -722	Ivan	194	13-Jul	Excel.	0	0	0	0	0	Staak	Calm conditions
	273 -722		201	20-Jul	Poor						Fox	Too muddy for count
	273 -722		205	24-Jul	Excel.	0	0	0	0	0	Staak	
			212	31-Jul	Excel.	0	0	0	550	0	Fox	Approx. 600 chums off mouth

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District	Stream	Stream	Calander		Survey	-----Species-----						Remarks	
	Number	Name	Day	Date	Cond.	Chinook	Sockeye	Pink	Chum	Coho	Observer		
	273 -722		218	06-Aug	Fair		0	0	0	400	0	Probasco	Jumpers off mouth
	273 -722		225	13-Aug	Good		0	0	0	1100	0	Probasco	Poor vis. in bay
	273 -722		229	17-Aug	Excel.		0	0	11500	2400	0	Probasco	
	273 -722		231	19-Aug	Excel.		0	0	12800	200	0	Fox	
	273 -722		247	04-Sep	Fair		0	1	5300	100	0	Fox	Poor light
	273 -720	West Ivan	Not Surveyed										
	273 -702	Coal Cape	194	13-Jul	Excel.		0	0	0	0	0	Staak	
	273 -702		201	20-Jul	Excel.		0	0	0	350	0	Fox	
	273 -702		205	24-Jul	Excel.		0	0	0	200	0	Staak	
	273 -702		212	31-Jul	Excel.		0	0	6500	300	0	Fox	40 ton Capelin off Perryville
	273 -702		218	06-Aug	Poor							Probasco	Creek too muddy for count
	273 -702		229	17-Aug	Excel.		0	0	3800	0	0	Probasco	Jumpers off mouth, poor vis. off mouth
	273 -702		231	19-Aug	Excel.		0	0	11200	0	0	Fox	Bay muddy
	273 -702		234	22-Aug	Excel.		0	0	5800	0	0	Probasco	500 pinks off mouth
	273 -702		247	04-Sep	Fair		0	0	1500	0	0	Fox	Approx. 30 chum carcasses in cr.
Perryville	275 -601	unnamed	229	17-Aug	Poor		0	0	0	0	0	Probasco	Jumpers off cr. mouth
	275 -600	unnamed	212	31-Jul	Fair		0	0	0	0	0	Fox	Numbers of fish traveling off Coal Cape
	275 -502	Humpback Bay	194	13-Jul	Excel.		0	0	0	175	0	Fox	
	275 -502		205	24-Jul	Fair		0	0	300	10	0	Staak	
	275 -502		212	31-Jul	Excel.		0	0	100	750	0	Fox	Approx. 1,000 pinks and 6,500 chums off cr. mouth
	275 -502		218	06-Aug	Fair		0	0	200	0	0	Probasco	Approx. 2,000 pinks off cr. mouth

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District	Stream Number	Stream Name	Calander		Survey Cond.	Species-----					Observer	Remarks
			Day	Date		Chinook	Sockeye	Pink	Chum	Coho		
	275 -502		229	17-Aug	Excel.	0	0	4000	0	0	Probasco	Approx. 9,000 pinks in bay
	275 -502		231	19-Aug	Excel.	0	0	5900	0	0	Fox	Approx. 4,800 pinks in bay; bay turbid
	275 -502		233	21-Aug	Excel.	0	0	15500	500	0	Fox	Approx. 12,000 pinks and 450 chums in bay
	275 -502		234	22-Aug	Excel.	0	0	9500	0	0	Probasco	Approx. 4,000 pinks off cr. mouth
	275 -502		247	04-Sep	Excel.	0	0	5000	0	0	Fox	Approx. 1,000 chums off cr. mouth
	275 -504	unnamed	201	20-Jul	Excel.	0	0	0	0	0	Fox	
	275 -504		212	31-Jul	Excel.	0	0	0	0	0	Fox	
	275 -504		229	17-Aug	Excel.	0	0	300	0	0	Probasco	Approx. 400 pinks off mouth
	275 -504		231	19-Aug	Excel.	0	0	3500	300	0	Fox	Approx. 1,800 pinks in bay; some fish missed in cr. due to vegetative cover
	275 -504		233	21-Aug	Excel.	0	0	0	0	0	Fox	Approx. 17,000 pinks off mouth
	275 -504		234	22-Aug	Excel.	0	0	200	0	0	Probasco	Approx. 11,000 pinks off mouth
	275 -504		247	04-Sep	Excel.	0	0	2000	0	0	Fox	Stream low; some fish due to tree cover
	275 -505	unnamed	201	20-Jul	Excel.	0	0	0	0	0	Fox	
	275 -505		205	24-Jul	Excel.	0	0	0	0	0	Staak	
	275 -505		212	31-Jul	Good	0	0	0	0	0	Fox	Approx. 200 pinks and 500 chums off cr. mouth
	275 -505		229	17-Aug	Excel.	0	0	300	0	0	Probasco	Approx. 30,000 pinks in bay
	275 -505		231	19-Aug	Excel.	0	0	500	50	0	Fox	Approx. 12,500 pinks and 2,000 chums in bay
	275 -505		233	21-Aug	Excel.	0	0			0	Fox	Approx. 35,000 pinks in bay
	275 -505		234	22-Aug	Excel.	0	0	2000	0	0	Probasco	Approx. 36,000 pinks off cr. mouth
	275 -505		247	04-Sep	Excel.	0	0	2300	0	0	Fox	Very low water conditions
	275 -506	unnamed	231	19-Aug	Excel.	0	0	0	0	0	Fox	Approx. 1,200 pinks in bay

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District	Stream Number	Stream Name	Calander		Survey Cond.	Species					Observer	Remarks
			Day	Date		Chinook	Sockeye	Pink	Chum	Coho		
	275 -406	Ivanof	192	11-Jul	Good	0	0	0	0	0	Wright	Approx. 8,000-10,000 chums by dock
	275 -406		194	13-Jul	Good	0	0	0	0	0	Staak	Approx. 2,000 chums in bay
	275 -406		201	20-Jul	Excel.	0	0	0	1500	0	Fox	
	275 -406		205	24-Jul	Excel.	0	0	400	4500	0	Staak	Approx. 50 pinks at mouth
	275 -406		205	24-Jul	Excel.	0	0	0	4745	0	Schwartz	Approx. 235 pinks at mouth
	275 -406		212	31-Jul	Excel.	0	0	500	4600	0	Fox	Approx. 35,000 pinks & 8,000 chums at mouth
	275 -406		218	06-Aug	Fair	0	0	200	1800	0	Probasco	Many jumpers in bay; vis. poor
	275 -406		229	17-Aug	Excel.	0	0	2600	450	0	Probasco	Approx. 5,000 chums & 20,000 pinks in bay
	275 -406		231	19-Aug	Excel.	0	0	6000	350	0	Fox	
	275 -406		233	21-Aug	Excel.	0	0	8500	500	0	Fox	Approx. 25,000 chums & 31,000 pinks off cr. mouth; 75,000 chums & 25,000 pinks in bay
	275 -406		234	22-Aug	Excel.	0	0	4000	800	0	Probasco	Approx. 20,000 chums & 20,000 pinks off cr. mouth; 125,000 chums & 80,000 pinks in bay
	275 -406		247	04-Sep	Excel.	0	0	16900	1000	0	Fox	Approx. 1,400 chums off cr. mouth
	275 -405	Sunnyside	192	11-Jul	Excel.	0	0			0	Staak	Approx. 30 chums off cr. mouth
	275 -405		194	13-Jul	Fair	0	0			0	Staak	
	275 -405		201	20-Jul	Excel.	0	0			0	Fox	
	275 -405		205	24-Jul	Excel.	0	0	200	700	0	Staak	Poor vis. in bay
	275 -405		212	31-Jul	Excel.	0	0	0	0	0	Fox	Approx. 25,000 pinks in bay
	275 -405		229	17-Aug	Excel.	0	0	0	0	0	Probasco	
	275 -405		231	19-Aug	Excel.	0	0	4000	1700	0	Fox	
	275 -405		247	04-Sep	Excel.	0	0	0	0	0	Fox	Stream totally dry

-Continued-

District	Stream Number	Stream Name	Calander		Survey Cond.	Species-----					Observer	Remarks
			Day	Date		Chinook	Sockeye	Pink	Chum	Coho		
	275 -404	Wasco's	205	24-Jul	Good	0	0	0	0	0	Schwartz	
	275 -404		212	31-Jul	Excel.	0	0	0	10	0	Fox	
	275 -404		229	17-Aug	Excel.	0	0	0	0	0	Probasco	
	275 -404		234	22-Aug	Excel.	0	0	4500	0	0	Probasco	
	275 -404		247	04-Sep	Excel.	0	0	7500	50	0	Fox	Approx. 300 pinks off mouth
	275 -402	Smokey Hollow	205	24-Jul	Good	0	0	0	75	0	Schwartz	
	275 -402		229	17-Aug	Excel.	0	0	700	0	0	Probasco	
	275 -402		234	22-Aug	Excel.	0	0	140	0	0	Probasco	
	275 -402		247	04-Sep	Excel.	0	0	700	0	0	Fox	
Eastern	272 -963	Kilokak	201	20-Jul	Good	0	0	0	0	0	Wright	
	272 -963		212	31-Jul	Excel.	0	0	0	0	0	Fox	Approx. 20 chums in bay; creek dry
	272 -963		224	12-Aug	Excel.	0	0	10	0	0	Staak	
	272 -963		233	21-Aug	Excel.	0	0	0	0	0	Fox	Approx. 8,000 pinks in bay; creek dry
	272 -963		243	31-Aug	Excel.	0	0	0	0	0	Probasco	Approx. 1,000 pinks at mouth; creek dry
	272 -962 A	Glacier	224	12-Aug	Good	0	0	0	0	0	Staak	Approx. 300 chums in bay
	272 -962 A		233	21-Aug	Poor	0	0	0	20	0	Fox	Approx. 1,000 chums at mouth; 300 chums and 1,000
	272 -962 A		243	31-Aug	Fair	0	0	5500	0	0	Probasco	
	272 -962 B	unnamed	no survey									
	272 -961 A	Agripina Lake	201	20-Jul	Fair	0	0	0	0	0	Wright	
	272 -961 A		212	31-Jul	Excel.	0	0	100	100	0	Fox	Need to resurvey lake
	272 -961 A		224	12-Aug	Fair	0	0	300	0	0	Staak	Fish in lake

-Continued-

District	Stream Number	Stream Name	Calander		Survey Cond.	Species-----					Observer	Remarks
			Day	Date		Chinook	Sockeye	Pink	Chum	Coho		
	272 -961 A		233	21-Aug	Excel.	0	0	20000	0	0	Fox	
	272 -961 A		243	31-Aug	Excel.	0	0	12000	0	0	Probasco	
	272 -961 B&C	Agripina	224	12-Aug	Good	0	0	1000	0	0	Staak	Approx. 3,000 pinks in bay
	272 -921	Port Wrangell	233	21-Aug	Poor	0	150	0	0	0	Fox	Too muddy, except side slough clear
	272 -921		243	31-Aug	Excel.	0	175	6000	1100	0	Probasco	
	272 -922	Wrangell	no survey									
	272 -923	Cape Providence	no survey									
	272 -906	unnamed	201	20-Jul	Fair	0	0	0	0	0	Wright	Approx. 30 fish at mouth; wind east 25 plus knots
	272 -906		212	31-Jul	Excel.	0	0	0	0	0	Fox	Approx. 700 chums at mouth; 150 pinks in bay in bight by lake
	272 -906		243	31-Aug	Excel.	0	0	500	0	0	Probasco	
	272 -905	unnamed	212	31-Jul	Excel.	0	0	0	120	0	Fox	Approx. 100 chums at mouth; creek dry
	272 -905		193	12-Jul	Fair	0	0	700	30	0	Staak	Approx. 2,000 chums at mouth and 10,000 chums in bay; chum schools in middle of bay
	272 -905		233	21-Aug	Excel.	0	1	1000	300	0	Fox	Approx. 28,200 pinks and 500 chums in bay
	272 -905		243	31-Aug	Excel.	0	0	20000	0	0	Probasco	
	272 -904	unnamed	201	20-Jul	Fair	0	0	0	0	0	Wright	Wind easterly 25 plus knots
	272 -904		212	31-Jul	Excel.	0	0	0	3300	0	Fox	
	272 -904		224	12-Aug	Fair	0	0	10	20	0	Staak	

-Continued-

District	Stream Number	Stream Name	Calander		Survey	Species					Observer	Remarks
			Day	Date		Cond.	Chinook	Sockeye	Pink	Chum	Coho	
	272 -904		233	21-Aug	Excel.		0	0	200	1100	0 Fox	Approx. 13,100 chums, 500 pinks, and 100 cohos in bay
	272 -904		243	31-Aug	Excel.		0	0	11000	0	0 Probasco	
	272 -903 A&B	Chiginagak	201	20-Jul	Fair		0	0	0	0	0 Wright	Wind easterly 25 plus knots
	272 -903 A&B		212	31-Jul	Excel.		0	0	500	100	0 Fox	Approx. 500 chums at mouth; 100 chums in bay
	272 -903 A&B		233	21-Aug	Poor		0	0	2300	19600	0 Fox	Approx. 9,000 pinks and 15,000 chums in bay
	272 -903 A&B		243	31-Aug	Good		0	0	32000	5600	0 Probasco	Approx. 1,800 cohos and 400 pinks at mouth
	272 -902	unnamed	224	12-Aug	Fair		0	0	100	0	0 Staak	Approx. 2,900 chums in bay, spread along beach
	272 -902		233	21-Aug	Excel.		0	0	350	350	0 Fox	Approx. 200 chums in bay
	272 -902		243	31-Aug	Excel.		0	0	3200	0	0 Probasco	
	272 -901	unnamed	243	31-Aug	Excel.		0	0	800	0	0 Probasco	Approx. 100 pinks at mouth
	272 -900	Cape Kuyuyukak	243	31-Aug	Excel.		0	0	100	0	0 Probasco	Approx. 300 pinks at mouth
	272 -805	unnamed	201	20-Jul	Fair		0	0	0	0	0 Wright	
	272 -805		224	12-Aug	Poor		0	0	0	0	0 Staak	
	272 -805		233	21-Aug	Excel.		0	0	100	0	0 Fox	Approx. 500 pinks at mouth
	272 -805		243	31-Aug	Excel.		0	0	1400	0	0 Probasco	Gillnet by mouth
	272 -804	Nakalilok	201	20-Jul	Fair		0	0	0	0	0 Wright	
	272 -804		212	31-Jul	Good		0	0	0	1100	0 Fox	Approx. 1,700 chums at mouth; 1,500 chums in bay between cr.'s 804-805

-Continued-

District	Stream Number	Stream Name	Calendar		Survey Cond.	Species					Observer	Remarks
			Day	Date		Chinook	Sockeye	Pink	Chum	Coho		
	272 -804		224	12-Aug	Poor	0	0	500	0	0	Staak	Approx. 400 pinks in bay
	272 -804		233	21-Aug	Excel.	1	0	1400	2500	2000	Fox	Approx. 3,000 cohos and 500 pinks at mouth; 4,000 cohos in bay
	272 -804		243	31-Aug	Excel.	0	0	0	250	0	Probasco	
	272 -803	unnamed	212	31-Jul	Excel.	0	0	0	0	0	Fox	
	272 -803		233	21-Aug	Excel.	0	0	70	15	0	Fox	
	272 -803		243	31-Aug	Excel.	0	0	6900	600	500	Probasco	
	272 -802	unnamed	212	31-Jul	Excel.	0	60	0	650	0	Fox	
	272 -802		224	12-Aug	Good	0	30	50	0	0	Staak	
	272 -802		224	12-Aug	Excel.	0	40	2200	2500	0	Fox	Coho mixed with chum
	272 -802		243	31-Aug	Excel.	0	0	4600	1100	0	Probasco	Approx. 1,500 cohos in bay
	272 -801	unnamed	212	31-Jul	Excel.	0	0	50	340	0	Fox	Approx. 200 chums along beach
	272 -801		224	12-Aug	Good	0	0	180	0	0	Staak	Fish in lower mile only
	272 -801		233	21-Aug	Excel.	0	0	9300	500	0	Fox	
	272 -801		243	31-Aug	Excel.	0	0	8400	2200	800	Probasco	
	272 -721	Yantarni	201	20-Jul	Poor						Wright	Muddy
	272 -721		212	31-Jul	Excel.	0	0	0	0	0	Fox	Approx. 1,600 chums at mouth; 800 chums along beach
	272 -721		233	21-Aug	Fair	0	0	4500	2500	0	Fox	
	272 -721		243	31-Aug	Excel.	0	0	13000	800	6000	Probasco	
	272 -703	Northeast	224	12-Aug	Fair	0	0	1200	0	0	Staak	
	272 -703		233	21-Aug	Excel.	0	0	5500	400	0	Fox	
	272 -703		243	31-Aug	Excel.	0	0	4300	200	1000	Probasco	

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District	Stream Number	Stream Name	Calander		Survey	Species-----					Observer	Remarks
			Day	Date		Cond.	Chinook	Sockeye	Pink	Chum	Coho	
	272 -702	Main	212	31-Jul	Excel.		0	0	0	350	0	Fox
	272 -702		224	12-Aug	Fair		0	0	2000	30	0	Staak
	272 -702		233	21-Aug	Excel.		0	130	11100	200	0	Probasco Coho mixed with chum
	272 -702		243	31-Aug	Excel.		0	125	7000	800	14000	Probasco Fourteen sport fishermen
	272 -701	West	212	31-Jul	Excel.		0	0	0	2000	0	Fox
	272 -606	Cape Agutka	212	31-Jul	Excel.		0	0	0	300	0	Fox Approx. 100 chums in bay
	272 -606		224	12-Aug	Fair		0	0	0	0	0	Staak
	272 -606		233	21-Aug	Excel.		0	0	4200	0	0	Fox Approx. 200 pinks in bay
	272 -606		243	31-Aug	Excel.		0	0	2000	0	700	Probasco
	272 -605	Aniakchak	224	31-Jul	Poor		0	0	0	1700	0	Fox North fork Aniakchak River
	272 -605		224	12-Aug	Fair							Staak Stream muddy
	272 -605		233	21-Aug	Excel.		0	0	2500	275	0	Fox Approx. 200 chums in bay; only north fork and Albert Johnson clear enough
	272 -605		243	31-Aug	Excel.		0	0	0	0	0	Probasco Jumpers off mouth; too muddy
	272 -604	Black	212	31-Jul	Excel.		0	0	0	140	0	Fox
	272 -604		224	12-Aug	Poor		0	0	0	0	0	Staak Jumpers at mouth
	272 -604		233	21-Aug	Excel.		0	50	200	0	0	Fox Approx. 600 pinks in bay
	272 -604		243	31-Aug	Excel.		0	0	1000	0	9700	Probasco
Central	272 -516	Cape Kumlik	no survey									
	272 -514	Northfork	201	20-Jul	Excel.		0	0	1100	0	0	Wright Fish within first 1/4 m. in cr.; excel. vis. in stream, poor in bay

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District	Stream Number	Stream Name	Calander		Survey Cond.	Species-----					Observer	Remarks
			Day	Date		Chinook	Sockeye	Pink	Chum	Coho		
	272 -514		203	22-Jul	Good	0	0	0	1800	0	Nicholson	
	272 -514		212	31-Jul	Good	0	5	200	3700	0	Fox	Approx. 1,000 chums off mouth; 500 pinks in bay
	272 -514		224	12-Aug	Fair	0	0	100	5	0	Staak	
	272 -514		233	21-Aug	Excel.	0	10	5500	500	0	Fox	
	272 -514		243	31-Aug	Excel.	0	0	5400	500	2200	Probasco	
	272 -512	unnamed		no survey								
	272 -511 B	unnamed		no survey								
	272 -511 A	unnamed		no survey								
	272 -510	unnamed	243	31-Aug	Excel.	0	0	500	0	0	Probasco	Approx. 200 pinks at mouth
	272 -509	Rudy's	201	20-Jul	Good	0	0	0	0	0	Wright	
	272 -509		233	21-Aug	Excel.	0	0	0	0	0	Fox	Approx. 20 chums in bay
	272 -508	unnamed	201	20-Jul	Good	0	0	0	0	0	Wright	Approx. 500-600 chums in bay
	272 -508		203	22-Jul	Poor	0	0	0	175	0	Nicholson	
	272 -508		224	12-Aug	Poor	0	0	0	0	0	Staak	
	272 -508		233	21-Aug	Excel.	0	0	0	0	0	Fox	Approx. 50 chums in bay; windy, partial survey of stream
	272 -507	unnamed	201	20-Jul	Excel.	0	0	0	0	0	Wright	
	272 -507		203	22-Jul	Poor	0	0	0	600	0	Nicholson	
	272 -507		212	31-Jul	Excel.	0	0	0	350	0	Fox	Windy, only partial survey of creek
	272 -507		233	21-Aug	Excel.	0	0	0	0	0	Fox	

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District	Stream Number	Stream Name	Calander		Survey Cond.	Species-----					Observer	Remarks
			Day	Date		Chinook	Sockeye	Pink	Chum	Coho		
	272 -506	Packers	201	20-Jul	Excel.	0	0	0	0	0	Wright	Approx. 300 chums in bay, close to mouth
	272 -506		203	22-Jul	Poor	0	0	0	100	0	Nicholson	
	272 -506		212	31-Jul	Excel.	0	0	0	150	0	Fox	Windy, only partial survey of creek
	272 -506		224	12-Aug	Fair	0	0	0	0	0	Staak	Some jumpers at mouth
	272 -506		233	21-Aug	Excel.	0	0	0	0	0	Fox	Approx. 20 pinks and 5 chums in bay
	272 -505	Bear	201	20-Jul	Excel.	0	0	0	0	0	Wright	Approx. 3,000 chums in bay
	272 -505		203	22-Jul	Poor	0	0	0	300	0	Nicholson	
	272 -505		212	31-Jul	Excel.	0	0	0	12000	0	Fox	Approx. 4,000 chums at mouth; windy, expanded count based on part. survey
	272 -505		222	10-Aug	Excel.	0	0	0	200	0	Probasco	
	272 -505		224	12-Aug	Poor	0	0	12	0	0	Staak	Approx. 5 pinks at mouth, some jumpers
	272 -505		233	21-Aug	Excel.	0	0	0	100	0	Fox	
	272 -505		243	31-Aug	Excel.	0	0	0	0	30	Probasco	
	272 -504	unnamed	201	20-Jul	Excel.	0	0	0	0	0	Wright	Approx. 100 fish at mouth
	272 -503	unnamed		no survey								
	272 -502	Waterfall		no survey								
	272 -501	Cape Kumliun	201	20-Jul	Excel.	0	0	0	0	0	Wright	Approx. 2,500 fish along beach north of mouth
	272 -501		203	22-Jul	Poor	0	0	0	25	0	Nicholson	
	272 -501		211	30-Jul	Good	0	0	0	250	0	Fox	Approx. 300 chums at mouth; 100 pinks in bay
	272 -501		212	31-Jul	Excel.	0	0	200	300	0	Fox	Approx. 500 chums at mouth; 16,000 pinks in bay spread along shore

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District	Stream Number	Stream Name	Calander		Survey Cond.	Species-----					Observer	Remarks
			Day	Date		Chinook	Sockeye	Pink	Chum	Coho		
	272 -501		222	10-Aug	Good	0	0	1000	0	0	Probasco	Poor visibility in bay
	272 -501		224	12-Aug	Fair	0	0	2500	0	0	Staak	Approx. 3,000 pinks at mouth
	272 -501		233	21-Aug	Excel.	0	0	46900	0	0	Fox	Approx. 71,000 pinks in bay
	272 -302	Hook Bay	212	31-Jul	Excel.	0	0	200	50	0	Fox	
	272 -302		222	10-Aug	Fair	0	0	200	0	0	Probasco	Poor visibility in bay
	272 -302		233	21-Aug	Excel.	0	20	2600	50	0	Fox	Approx. 1,300 pinks in bay
	272 -302		243	31-Aug	Excel.	0	150	7850	200	0	Probasco	
	272 -206	Dry		no survey								
	272 -205	McKinsey		no survey								
	272 -204	Thompson Valley		no survey								
	272 -202 A	unnamed		no survey								
	272 -201	unnamed		no survey								

Appendix C.2. Peak escapement counts and estimated total escapements of pink and chum salmon by district and stream for the Chignik Management Area, 1987.

District	Stream Number	Stream Name	Pink		Chum	
			Peak Count	Total Est. Escap. ^a	Peak Count	Total Est. Escap. ^a
Chignik Bay	271-106	Neketa	Not Surveyed			
	271-105	Dago Frank	Not Surveyed			
	271-104	Alfred	Not Surveyed			
	271-102 B	Unnamed	0	0	100	100
	271-102 C	Unnamed	0	0	0	0
	Chignik District Totals		0	0	100	100
Central	272-516	Cape Kumlik	Not Surveyed			
	272-514	Northfork	5,500	8,817	3,700	3,987
	272-512	unnamed	Not Surveyed			
	272-511	unnamed	Not Surveyed			
	272-511 A	unnamed	Not Surveyed			

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Appendix C.2. (page 2 of 7)

District	Stream Number	Stream Name	Pink		Chum	
			Peak Count	Total Est. Escap. ^a	Peak Count	Total Est. Escap. ^a
Central (cont.)	272-510	unnamed	500	500	0	0
	272-509	Rudy's	0	0	0	0
	272-508	unnamed	0	0	175	175
	272-507	unnamed	0	0	600	600
	272-506	Packer's	0	0	150	150
	272-505	Bear	0	0	12,000	12,000
	272-504	unnamed	0	0	0	0
	272-503	unnamed	Not Surveyed			
	272-502	Waterfall	Not Surveyed			
	272-501	Cape Kumliun	46,900	46,900	300	300
	272-302	Hook Bay	7,850	9,487	200	287
	272-206	Dry	Not Surveyed			
	272-205	McKinsey	Not Surveyed			

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Appendix C.2. (page 3 of 7)

District	Stream Number	Stream Name	Pink		Chum	
			Peak Count	Total Est. Escap. ^a	Peak Count	Total Est. Escap. ^a
Central (cont.)	272-204	Thompson Val.	Not Surveyed			
	272-202 A	unnamed	Not Surveyed			
	272-201	unnamed	Not Surveyed			
	Central District Totals:		60,750	65,704	17,125	17,499
Eastern	272-963	Kilokak	10	10	0	0
	272-962 A	Glacier	5,500	6,233		
	272-962 B	unnamed	Not Surveyed			
	272-961 A	Agripina Lake	20,000	22,953		
	272-961 B&C	Agripina	1,000	1,000	0	0
	272-921	Port Wrangell	6,000	6,000	1,100	1,100
	272-922	Wrangell	Not Surveyed			
	272-923	Cape Providence	Not Surveyed			

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Appendix C.2. (page 4 of 7)

District	Stream Number	Stream Name	Pink		Chum	
			Peak Count	Total Est. Escap. ^a	Peak Count	Total Est. Escap. ^a
Eastern (cont.)	272-906		500	533	0	0
	272-905	unnamed	20,000	20,000	300	319
	272-904	unnamed	11,000	11,000	3,300	3,300
	272-903 A&B	Chiginagak	32,000	67,533	15,700	15,700
	272-902	unnamed	3,200	3,200	350	350
	272-901	unnamed	800	800	0	0
	272-900	Cape Kuyuyukak	100	100	0	0
	272-805	unnamed	1,400	1,400	0	0
	272-804	Nakalilok	1,400	1,447	2,500	3,849
	272-803	unnamed	6,900	6,900	600	600
	272-802	unnamed	4,600	5,923	2,500	2,823
	272-801	unnamed	9,300	13,044	2,200	2,712
	272-721	Yantarni	13,000	17,967	2,500	2,975

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Appendix C.2. (page 5 of 7)

District	Stream Number	Stream Name	Pink		Chum	
			Peak Count	Total Est. Escap. ^a	Peak Count	Total Est. Escap. ^a
Eastern (cont.)	272-703	Northeast	5,500	7,527	400	400
	272-702	Main	11,100	14,263	800	1,459
	272-701	West	0	0	2,000	2,000
	272-606	Cape Agutka	4,200	4,200	300	300
	272-605	Aniakchak	2,500	2,500	275	275
	272-604	Black	1,000	1,080	140	140
Eastern District Totals:			161,010	215,613	34,965	38,302
Western	273-845	Dog Bay	0	0	1,700	1,700
	273-844	unnamed	0	0	30	35
	273-843	Seal Bay	500	500	3,900	3,900
	273-842	Portage Bay	0	0	6,400	10,168
	273-823	Spoon	30	30	1	1

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Appendix C.2. (page 6 of 7)

District	Stream Number	Stream Name	Pink		Chum	
			Peak Count	Total Est. Escap. ^a	Peak Count	Total Est. Escap. ^a
Western (cont.)	273-822	unnamed	0	0	15	18
	273-821	unnamed	300	524	0	0
	273-802	Foot Bay	5,300	6,553	1,000	1,000
	273-723	Fishrack	2,100	2,396	0	0
	273-722	Ivan	12,800	14,804	2,400	2,400
	273-720	West Ivan	Not Surveyed			
	273-702	Coal Cape	11,200	13,443	350	442
	Western District Totals:		32,230	38,250	15,796	19,664
Perryville	275-601	unnamed	0	0	0	0
	275-600	unnamed	0	0	0	0
	275-502	Humpback Bay	15,500	15,500	750	750
	275-504	unnamed	3,500	3,500	300	300

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Appendix C.2. (page 7 of 7)

District	Stream Number	Stream Name	Pink		Chum	
			Peak Count	Total Est. Escap. ^a	Peak Count	Total Est. Escap. ^a
Perryville (cont.)	275-505	unnamed	2,300	4,673	50	50
	275-506	unnamed	0	0	0	0
	275-406	Ivanof	16,900	24,700	4,600	6,869
	275-405	Sunnyside	4,000	4,000	1,700	1,700
	275-404	Wasco's	7,500	11,900	50	59
	275-402	Smokey Hollow	700	1,443	75	98
Perryville District Totals:			50,400	65,716	7,525	9,826
TOTAL ALL DISTRICTS:			304,390	385,283	75,511	85,391

^a Escapements determined from spawner abundance curves derived from aerial escapement surveys under fair or better visibility conditions and an assumed, 15 day average stream life for pink and chum salmon. The exception was that the peak count was used in instances when the peak count exceeded the computed estimate.

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